

Via Electronic Mail and UPS

March 31, 2017



David Turin
U.S. Environmental Protection Agency
5 Post Office Square – Suite 100
Mail Code: OES04-3
Boston, MA 02109-3912

Re: Hull WPCF Capacity, Management, Operation and Maintenance ("CMOM") Program
Implementation Annual Report
Town of Hull, MA Administrative Order on Consent, Docket No. CWA-01-AO-16-09

Dear Mr. Turin:

As identified in the Administrative Order on Consent (AOC), Woodard & Curran, on behalf of the Town of Hull is hereby submitting the Hull Water Pollution Control Facility (WPCF) CMOM Program Implementation Annual Report for your review, comment and/or approval.

This report also serves as the fulfillment of the NPDES annual reporting requirements for the WPCF (NPDES Permit No. MA0101231). Woodard & Curran began operation and maintenance of the WPCF on April 1, 2015, and records are included from January 1, 2016 through December 31, 2016.

Sincerely,

WOODARD & CURRAN

Frank J. Cavaleri
Senior Principal

FJC/klr

Enclosures:

cc: David Burns, MassDEP Southeast Regional Office
Philip Lemnios, Town Manager, Town of Hull
John Struzziery, P.E., Director of Wastewater Operations, Town of Hull
Aram Varjabedian, Project Manager, W&C
Kate Roosa, EIT, Plant Engineer, W&C

PN: 217319



CMOM ANNUAL REPORT

Calendar Year 2016

980 Washington Street | Suite 325
Dedham, Massachusetts 02026
800.446.5518

woodardcurran.com
COMMITMENT & INTEGRITY DRIVE RESULTS

217319.00
Town of Hull, MA
March 2017

TABLE OF CONTENTS

SECTION	PAGE NO.
EXECUTIVE SUMMARY	I
1. COMPLETED PROJECTS	1-1
1.1 AOC Deliverables	1-1
1.2 CMOM Activities	1-1
1.3 Unauthorized Discharges	1-2
2. ANNUAL AVERAGE AND MAXIMUM MONTH I/I ESTIMATES.....	2-1
3. PLANNED CMOM AND I/I PROJECTS	3-2
3.1 AOC and Asset Management Deliverables	3-2
3.2 CMOM Activities	3-2
3.2.1 Cleaning and CCTV	3-2
3.2.2 Flow Assessment.....	3-3

TABLES

Table 1: I/I Estimates

FIGURES

Figure 1: Map of Unauthorized Discharges in 2016
Figure 2: 2016 Groundwater Monitoring Data, USGS
Figure 3: 2017 Planned CCTV and Flow Assessment Scope

APPENDICES

Appendix A: CMOM Self-Assessment Checklist
Appendix B: Collection System Work Orders
 1. 2016 Work Order Summary
 2. 2016 Sample Work Orders
Appendix C: Completed CMOM and I/I Projects Expenditures
Appendix D: Unauthorized Discharge Summary

EXECUTIVE SUMMARY

Woodard & Curran holds a professional services contract for the operation and maintenance of the Water Pollution Control Facilities (WPCF) for the Town of Hull. Woodard & Curran (Contract Operator) began operation of the Hull WPCF facility on April 1, 2015.

Woodard & Curran has prepared this Capacity Management Operation and Maintenance (CMOM) Annual Report to serve as a summary of maintenance and operation activities performed during 2016 to the Town of Hull's Wastewater System. The purpose is to document progress as required by the Administrative Order on Consent (AOC) and fulfill NPDES permit requirements for reporting I/I minimization.

This report includes the following AOC deliverables:

1. A detailed description of the actions taken during the previous calendar year to address any action items included in the CMOM Corrective Action Plan, including updates to the CMOM Program Manual.
2. A description of the actions that will be taken during the current calendar year to address any action items included in the CMOM Corrective Action Plan.
3. A summary listing of all unauthorized discharges that have occurred during the last calendar year, in accordance with the NPDES Permit Section D.1.
 - a. A report of any infiltration/inflow related corrective actions taken, as a result of unauthorized discharges reported pursuant to 314 CMR 3.19(20) and NPDES Permit Part 1, Section D.1.
4. A map or maps of the Town's Collection System showing the location of each unauthorized discharge included in the summary listing;

And the following NPDES permit deliverables:

5. A map and a description of inspection and maintenance activities conducted and corrective actions taken during the previous year.
6. Expenditures for any infiltration/inflow related maintenance activities and corrective actions taken during the previous year.
7. A map with areas identified for I/I-related investigation/action in the coming year.
8. An estimate of the annual average I/I and the maximum month I/I for the reporting year.

1. COMPLETED PROJECTS

1.1 AOC Deliverables

The following AOC deliverables were completed:

- Unauthorized Discharge Summary - July 31, 2016
- Emergency Response Plan - August 31, 2016
- I/I Summary Plan - August 31, 2016
- CMOM Self-Assessment - October 31, 2016

A copy of the CMOM Self Assessment is included in Appendix A, to provide details about on-going CMOM improvement work during 2016 and 2017.

1.2 CMOM Activities

During 2016, both the Town Sewer Department and Contract Operator performed corrective and preventative maintenance of the collection system, including:

- Grinder pump customer service and corrective action
- Abatement of Unauthorized Discharges
- DigSafe utility marking
- Manhole and pipe inspections
- Repair of the Pump Station 3 forcemain discharge
- Cleaning, CCTV and manhole repair work on Atlantic Avenue (near Pump Station #1)
- Implemented Hydrogen Sulfide (H₂S) and Fats, Oils and Grease (FOG) reduction programs:
 - In-pipe bacteria addition of 20 locations; to grow non-sulfide generating bacteria to breakdown FOG within the Pump Station wet-wells and gravity system.
 - Installation of wet-well aerators to all Pump Stations, to break up FOG and reduce build-up between cleanings.
 - Introduction of Ferrous Chloride to Interceptor at Pump Station #6 during Summer months to control downstream H₂S.

A summary of the 2016 completed SEMS Work Orders and sample DoForms reports are attached in Appendix B. This is a summary of the completed work orders for the collection system, including the pump stations, and summarized by Asset Name. Improvements were made over the course of the year to track work orders at the asset level by streamlining the unique system (e.g. asset ID numbers). The 2016 total expenditures for CMOM and I/I are summarized in Appendix C.

Contract Operator continued to utilize sewer system GIS, adding assets and documenting locations to verify and update the GIS database. To assist with this work, a GPS X-4 Unit was purchased for the facility and is being used to update

the asset locations in the GIS system. DoForms, SEMS and GIS tools are being utilized for asset management, and upcoming plans to improve reporting is outlined in Section 3 as a part of upcoming AOC deliverables.

1.3 Unauthorized Discharges

There were nine unauthorized discharge events documented in 2016 (locations shown in Figure 1 below). There were two unauthorized discharges at the WPCF, one unauthorized discharge at Pump Station #3, and three sanitary sewer overflows (SSO's). An additional three SSO's were reported by WPCF staff, but during inspection, found to be privately owned. These SSO's were delegated to the Town of Hull Board of Health to complete follow-up inspections. Brief descriptions as well as current status of each unauthorized discharge are listed in chronological order below, and the full Unauthorized Discharge Summary Table can be found in Appendix D.

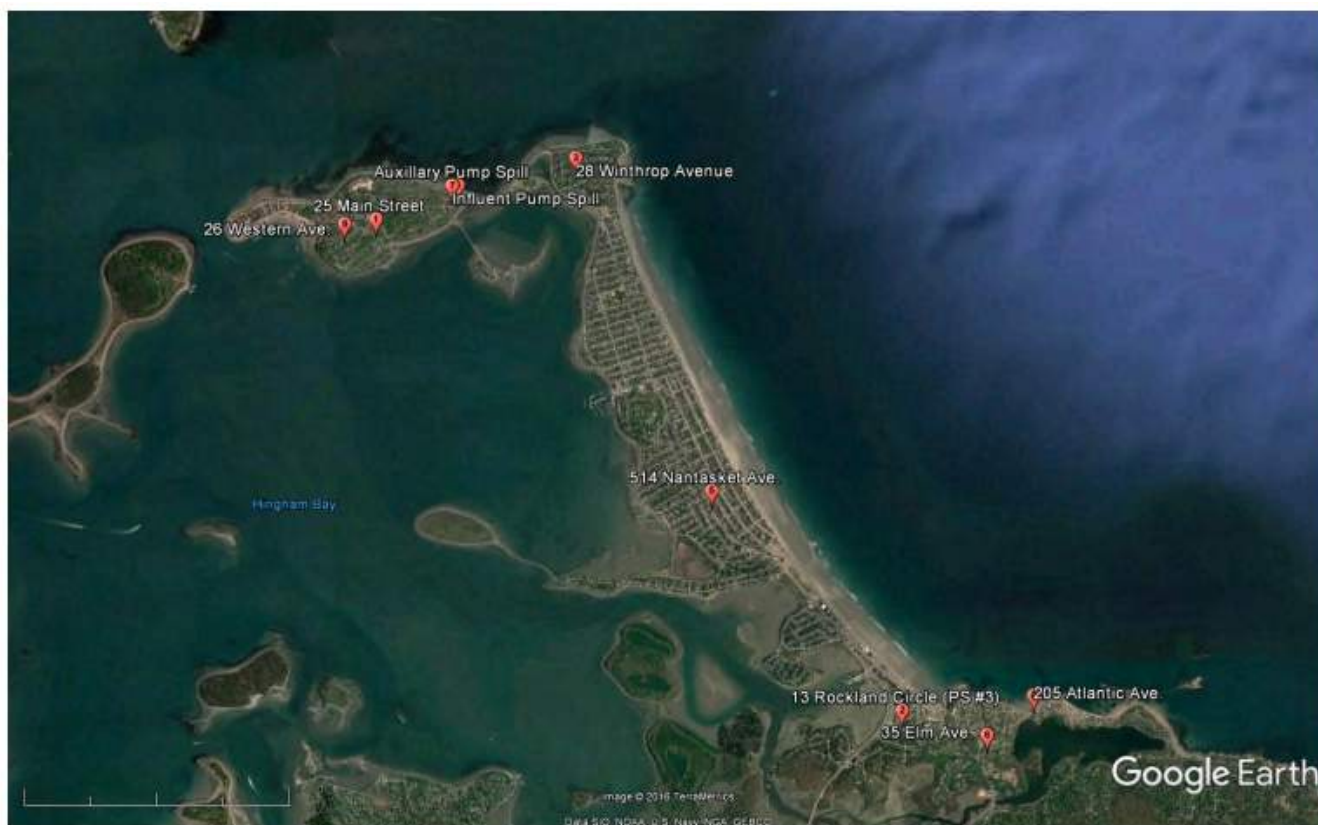


Figure 1: Map of Unauthorized Discharges in 2016

25 Main Street

Status: Abated; Board of Health

On February 15, a resident contacted W&C to report a home back-up. Upon inspection, the street line was running appropriately and no further action was taken. On February 17, a second call by the homeowner was placed for another back-up. The main sewer line was running normally, and it was found that the service lateral was leaking. On February 19, W&C was notified of the cause of the overflow. There was a service cleanout whose cap had been removed causing spillage into the yard. Based on the wet ground evidence surrounding the cleanout port, about 5 – 10 gallons was spilled no further than 10-15 feet downhill of the cleanout. A local contractor was contacted to clean the lateral and repair the missing cleanout cap. This event was not related to the POTW.

Pump Station #3 (13 Rockland Circle)**Status:** *Closed; Awaiting Valve Replacement*

On March 15, during forcemain isolation valve exercise, the valve broke in the open position. Approximately two gallons of wastewater was released on the ground surface and eight gallons were released in the valve box. The area where the spills occurred were disinfected with lime. The subcontractor stopped the leak by closing the valve actuator, but the valve remains broken and has been added to the Corrective Action Plan scope of work.

28 Winthrop Avenue**Status:** *Abated*

On March 29, a local plumber reported a back-up while attempting to snake-out service connection at this home. There was approximately 25 – 50 gallons of wastewater released into the home. After WPCF staff responded, the manholes in the street were inspected and debris/grease was found in MH20169. Staff drained the manhole, and Rosano Davis Septic Pumping (RD) cleaned it. Basement was cleaned by same company; no other follow up service was scheduled.

WPCF (1111 Nantasket Avenue)**Status:** *Abated.*

On April 14, auxiliary pump piping was being removed and the 12" drain line had not been emptied into a process tank. Therefore, approximately 50 – 75 gallons of sewage overflowed onto the grassy area which was treated with lime. The auxiliary pump SOP was updated to include proper draining of suction and discharge lines, and the pump has since been removed from service.

514 Nantasket Avenue**Status:** *Closed; Board of Health*

On May 14, WPCF staff were notified of a potential spill on the driveway between 510-520 Nantasket Ave. Upon further investigation, it was determined that the blockage was occurring on private property, as the main line was running at normal levels. Later it was confirmed by the Board of Health that sewage backed from a basement grease interceptor, and sump pump in basement pumped out liquid to the outside driveway area. Some of this water made it to nearby MS4 catch basin, which may have drained to the Atlantic Ocean, but exact quantity and exact cleanup methodology is unknown. This event was not related to the POTW.

35 Elm Avenue**Status:** *Abated; Board of Health*

On June 7, staff responded to a sewer back-up in a home. Upon further inspection, the privately-owned grinder pump malfunctioned and caused overflow into basement. The Board of Health was contacted, and RD responded on June 7 to pump out the home and returned on June 8 to repair the grinder pump. This event was not related to the POTW.

WPCF (1111 Nantasket Avenue)**Status:** *Abated*

On July 26, while exercising the influent pumps, the wet-well reached high level and triggered multiple pumps to turn on, and the primary distribution box was surcharged immediately. Once the spill was realized, the gates were shut immediately and lime was applied to the ground where the flow had spilled onto the ground. The Pump Exercise SOP was modified accordingly, and no more than 10 gallons were spilled.

205 Atlantic Avenue**Status:** *Abated*

On December 19, Hull Assistant Building Inspector, Bart Kelley, notified Hull WPCF of overflowing sewer manhole near 205 Atlantic Avenue. Upon arrival, the crew contacted RD septic company to pump the surcharged sewer line. The road surface was vacuumed and adjacent areas were cleaned and lime was applied. After the line was drained, and peak flow subsided, the main sewer line was jetted and five manholes were inspected.

26 Western Avenue**Status:** *Abated*

On December 30, Hull WPCF staff responded to a sewer back-up at 26 Western Avenue. Upon arrival, it was determined that sewage was backing up into a detached garage. After further investigation, the upstream manhole was found to be surcharged and the downstream manhole was found to be flowing freely. On January 5, 2017, HUB Construction and RD returned to unplug blockage in sewer pipe, and install cleanout port for improved maintenance outlet.

2. ANNUAL AVERAGE AND MAXIMUM MONTH I/I ESTIMATES

As noted during the AOC Update meeting on February 14, 2017, the 2015 I/I Control Plan showed inconsistent I/I calculations compared to previous years' reports. After further review, it was determined that 2015 flows were misrepresented, and they are included with 2016 I/I estimates in Table 1 below.

Table 1: I/I Estimates

	Average Annual (MGD)	Maximum Month (MGD)	Average Daily Flow (MGD)	Annual Rainfall (inches)
2002 – 2012*	0.3 – 0.5	0.5 – 0.83	1.55 – 1.9	-
2015	0.51	1.65	1.57	26"
2016	0.46	1.05	1.45	29"

*Historical reports used as reference for 2015 -2016 I/I Calculations

Daily WPCF Effluent Flow and Precipitation data was exported from the WPCF's Hach® WIMS™ data management system. I/I estimates were calculated by reviewing the Highest and lowest 7-day moving averages in comparison to the Base Sanitary Flow (BSF) during the same timeframe. While rainfall increased during this calendar year, the I/I values were expected to be lower due to a decrease in groundwater levels. Massachusetts has been in a sustained drought, and July through December 2016 experienced a State-issued Drought Emergency. Figure 2 below shows the decrease in groundwater level for Southeastern Massachusetts in 2016.

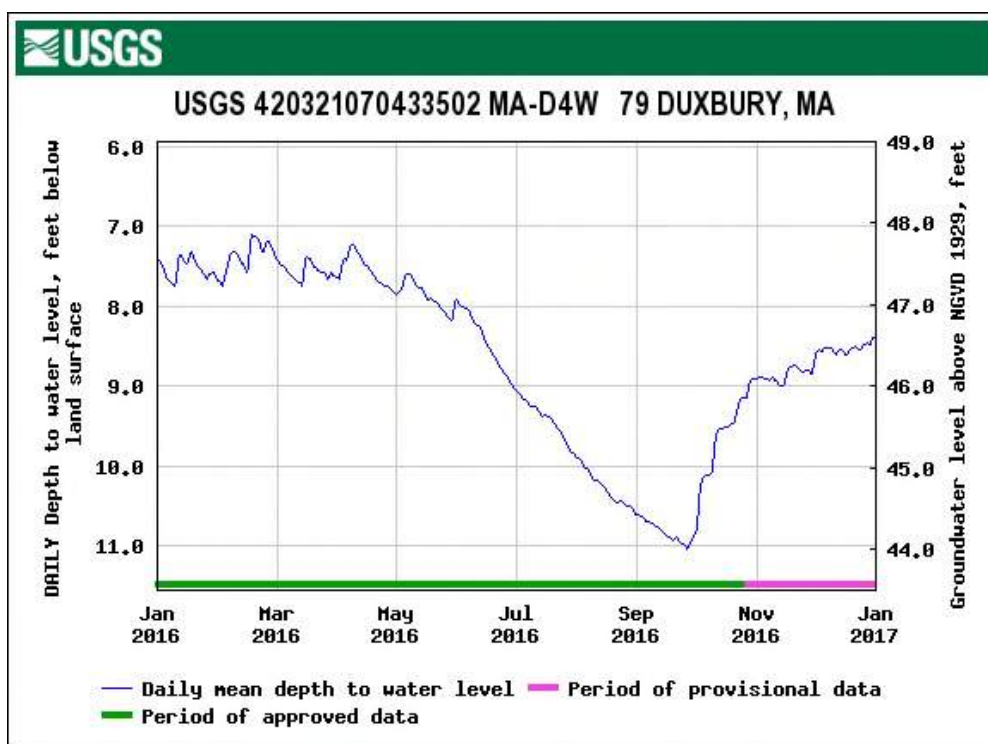


Figure 2: 2016 Groundwater Monitoring Data, USGS

3. PLANNED CMOM AND I/I PROJECTS

3.1 AOC and Asset Management Deliverables

In keeping with the MassDEP Asset Management Grant program deadline, and the December 21, 2016-dated revision to the AOC reporting deadlines, the following deliverables will be completed in 2017:

- Asset Management Grant (Mass DEP) - May 31, 2017
- CMOM Program Manual - June 30, 2017
- CMOM Corrective Action Plan (including WPCF Rehabilitation Schedule) - July 31, 2017

3.2 CMOM Activities

As a part of collection system operations, manhole inspections will be performed on a regular basis during homeowner backup calls, and in coordination with sewer cleaning/CCTV efforts. The DoForms reporting platform has been recently updated to NASSCO MACP Level 1 Inspection protocol, complete with photo attachment capabilities. This information will be included in GIS for streamlined asset inspection information. As stated in the 2015 I/I Control Plan, the following improvements to the infiltration and inflow reporting system will be continued this year:

- Utilization of insertion flow meters
- Addition of local tidal and groundwater data to Hach® WIMS™
- Feasibility of incorporating salinity meters in the collection system
- Continued support of Hydrogen Sulfide (H₂S) and Fats, Oils and Grease (FOG) reduction programs:
 - In-pipe bacteria addition of 20 locations; to grow non-sulfide generating bacteria to breakdown FOG within the Pump Station wet-wells and gravity system.
 - Installation of wet-well aerators to all Pump Stations, to break up FOG and reduce build-up between cleanings.
 - Introduction of Ferrous Chloride to Interceptor at Pump Station #6 during Summer months to control downstream H₂S.

3.2.1 Cleaning and CCTV

This spring, immediate cleaning and CCTV inspections will be performed in the following areas:

- Nantasket Avenue from A St to XYZ Streets (MH 20424 to MH 20221).
- Fitzpatrick Way from XYZ Streets to bridge crossing.
- Fitzpatrick Way (at Pt Allerton Ave.) to Spring Street and Nantasket Avenue.

After completion of the CCTV inspection, engineering review will provide an updated condition assessment of the Interceptor and prioritize the need for pipeline renewal projects. See Figure 3 for the map of Cleaning and CCTV areas, as well as the targeted flow assessment areas of Pemberton and Atlantic Avenue.

3.2.2 Flow Assessment

Several insertion flow meters will be utilized to provide subsystem flow data for the Gunrock (Pump Station #1 subsystem) and Pemberton (Pump Station #9 subsystem) areas. Flow assessment data, CCTV, and manhole inspection data will help identify, prioritize, and correct sources of potential I/I to the collection system.



Figure 3: 2017 Planned CCTV and Flow Assessment Scope

APPENDIX A: CMOM SELF-ASSESSMENT CHECKLIST

Attachment
United States Environmental Protection Agency, EPA New England

Wastewater Collection System CMOM Program Self-Assessment Checklist

Oct 2010

Name of your system Hull Water Pollution Control Facility Date October 31, 2016

Put an "A" in the final column for an issue you intend to address with future action, or leave blank if you have evaluated your program as sufficient.

I. General Information – Collection System Description

I	Question	Response	*Act																																																
1	How many people are served by your wastewater collection system?	According to the 2010 U.S. Census report, the Town of Hull has 10,293 people served and in Hingham and Cohasset, approximately 936 people are served. Peddocks Island, part of the Boston Harbor Islands State Park, also discharges small flow to the Hull Sewer System (<100 users). Combined there is a total service population of about 11,330.																																																	
2	What is the number of service connections to your collection system? How many: Manholes? Pump stations? Feet (or miles) of sewer? Force mains? Siphons?	<p>Hull has 4,809 service connections (including 4,497 from Hull and 312 from Hingham and Cohasset). There are approximately 2,040 manholes and 210,000 linear feet (40 miles) of gravity sewer (ranging in diameter from 4" to 36"). About 20,000 feet of low pressure sewer serves 175 homes with Town owned grinder pumps, with approximately an additional 25 resident owned grinder pumps. Seven pumping stations ranging in size from 150 gpm to 1,700 gpm with a total length of force mains of approximately 14,000 feet (See Table below for summary of each station). A four-barrel siphon consisting of 1-10", 2-16", and 1-18", 60 feet long was constructed along the interceptor to allow for placement of a 48" drainage culvert under the 36" interceptor.</p> <table border="1"> <thead> <tr> <th>Name</th> <th>Location</th> <th>Generator</th> <th>Design Capacity (gpm)</th> <th>Approx . Age (years)</th> <th>Forcemain Size/Length</th> </tr> </thead> <tbody> <tr> <td>L.S. A</td> <td>Valley Beach Rd.</td> <td>No*</td> <td>200</td> <td>20</td> <td>4"/840 ft.</td> </tr> <tr> <td>P.S. 1</td> <td>Atlantic Ave.</td> <td>Yes</td> <td>450</td> <td>35</td> <td>8"/2,050 ft.</td> </tr> <tr> <td>P.S. 3</td> <td>George Washingt on Blvd.</td> <td>Yes</td> <td>1700</td> <td>35</td> <td>14"/4,625 ft.</td> </tr> <tr> <td>P.S. 4</td> <td>Marginal Rd.</td> <td>Yes</td> <td>800</td> <td>35</td> <td>8"/1,000 ft.</td> </tr> <tr> <td>P.S. 5</td> <td>Draper Ave.</td> <td>Yes</td> <td>1600</td> <td>35</td> <td>14"/530 ft.</td> </tr> <tr> <td>P.S. 6</td> <td>L St. Playgrou nd</td> <td>Yes</td> <td>670</td> <td>22</td> <td>6"/60 ft.</td> </tr> <tr> <td>P.S. 9</td> <td>Main St. High School</td> <td>Yes</td> <td>650</td> <td>35</td> <td>10"/5,030 ft.</td> </tr> </tbody> </table> <p>*Transfer Switch, portable generator connection and portable generator are available.</p>	Name	Location	Generator	Design Capacity (gpm)	Approx . Age (years)	Forcemain Size/Length	L.S. A	Valley Beach Rd.	No*	200	20	4"/840 ft.	P.S. 1	Atlantic Ave.	Yes	450	35	8"/2,050 ft.	P.S. 3	George Washingt on Blvd.	Yes	1700	35	14"/4,625 ft.	P.S. 4	Marginal Rd.	Yes	800	35	8"/1,000 ft.	P.S. 5	Draper Ave.	Yes	1600	35	14"/530 ft.	P.S. 6	L St. Playgrou nd	Yes	670	22	6"/60 ft.	P.S. 9	Main St. High School	Yes	650	35	10"/5,030 ft.	
Name	Location	Generator	Design Capacity (gpm)	Approx . Age (years)	Forcemain Size/Length																																														
L.S. A	Valley Beach Rd.	No*	200	20	4"/840 ft.																																														
P.S. 1	Atlantic Ave.	Yes	450	35	8"/2,050 ft.																																														
P.S. 3	George Washingt on Blvd.	Yes	1700	35	14"/4,625 ft.																																														
P.S. 4	Marginal Rd.	Yes	800	35	8"/1,000 ft.																																														
P.S. 5	Draper Ave.	Yes	1600	35	14"/530 ft.																																														
P.S. 6	L St. Playgrou nd	Yes	670	22	6"/60 ft.																																														
P.S. 9	Main St. High School	Yes	650	35	10"/5,030 ft.																																														

* Put an "A" in the final column if this is an issue you intend to address with future action.

3	What is the age of your system (e.g., 30% over 30 years, 20% over 50 years, etc.)?	Significant portions of the collection system date back to the turn of the century. The system is a “separate” sanitary sewerage system, but some sewers are documented back to the 1860’s. Over 50% of the collection system has been constructed since 1977, making the average age of the collection system over 40+ years old.	
4	What type(s) of collection system map is/are available and what percent of the system is mapped by each method (e.g., paper only, paper scanned into electronic, digitized, interactive GIS, etc.)? When was the map(s) last updated?	A digitized interactive sewer system GIS database and map was created by scanning and digitizing paper plans covering about 85 to 90% of the town’s sewers, forcemains and pump stations. The GIS map/database was mostly based on the 1986 CDM sewer system map/plan. GIS mapping and attribute data is being updated and supplemented on an annual basis during the Town’s annual system pipeline and manhole inspections using a GPS unit and smartphone/tablets. The base GIS map has yet to incorporate the recent data gathered in 2015 and 2016, but it is expected that through the Town’s annual updates, it will develop a complete, accurate sewer system GIS database and map.	A
5	If you have a systematic numbering and identification method/system established to identify sewer system manhole, sewer lines, and other items (pump stations, etc.), please describe.	Yes. According to the Kleinfelder GIS mapping system, manholes, sewer lines, forcemain and pump stations are identified. The GIS map is online and available in the field; field data is gathered with the goal of updating the GIS map on an ongoing basis.	A
6	Are “as-built” plans (record drawings) or maps available and used by field crews in the office and in the field?	Hull has “tie-in cards” for approximately 3,240 of the 4497 Hull connections. For gravity sewer lines, forcemains and pump stations, there are GIS locations, available through an online GIS web mapping profile created by Kleinfelder. There are paper drawings for many sewer projects available at the wastewater facility, and these are utilized or referenced by field crews on as needed basis.	A
7	Describe the type of asset management (AM) system you use (e.g. card catalog, spreadsheets, AM software program, etc.)	The current asset management system utilizes several technology tools; including DoForms, SEMS Technologies CMMS, and the GIS system combined with Excel spreadsheets (inventories, calculations).	A

II. Continuing Sewer Assessment Plan

II	Question	Response	*Act
1	Under what conditions, if any, does the collection system overflow? Does it overflow during wet and/or dry weather? Has your system had problems with: <input type="checkbox"/> hydraulic issues, <input type="checkbox"/> debris, <input type="checkbox"/> roots, <input type="checkbox"/> Fats, Oils & Grease (FOG), <input type="checkbox"/> vandalism blockages resulting in manhole overflows, <input type="checkbox"/> basement backups, <input type="checkbox"/> other (specify)? Describe your system’s history of structural collapses, and PS or force main failures.	Collection system overflows occur mostly during wet weather events, and the system does not typically experience overflows during dry weather. The collection system has had some problems with structural sewer line and manhole failures, as well as forcemain failures, in addition to backups caused by debris, FOG, and basement backups. However, <i>the hydraulic limitations in the collection system and the WWTP are a concern only during extreme flow events or infrastructure failures.</i> Pump Station losses - there have been no pump station losses that have caused sewer overflows in the past couple of years, except for the forcemain issues discussed below.	

* Put an “A” in the final column if this is an issue you intend to address with future action.

		<p>Structural collapses – some corrosion/deterioration of sewers and manholes have occurred in the past causing structural defects that needed to be repaired.</p> <p>Forcemain failures – The forcemain for PS 9 corroded and was replaced in 2011 with a new HDPE Forcemain. The forcemain for PS 4 had a break and required repair in early 2014. This forcemain has failed multiple times over the years.</p> <p>15 feet of the end of the forcemain for PS 3 was lined in the summer of 2016 due to corrosion issues.</p> <p>The manhole and reinforced concrete pipe (“main interceptor”) where the forcemain for PS 3 discharges, collapsed in 2002/2003 and required an emergency repair.</p>	
2	How many SSOs have occurred in each of the last three calendar years? What is the most frequent cause?	During the last three years, there have been 29 SSOs (15 in 2013, 5 in 2014 and 9 in 2015). The most frequent cause is mechanical failure, blockages and secondary sludge spills.	
3	Of those SSOs, how many basement backups occurred in each of the last three calendar years? How are they documented?	During the last three years (2013, 2014 and 2015), there has been one documented basement backup. It was documented as an SSO, according to plant records, which are typically documented through daily reports and annual monthly reports.	
4	What is the ratio of peak wet-weather flow to average dry-weather flow at the wastewater treatment plant (or municipal boundary for satellite collection systems)?	The ratio of peak wet weather flow to average dry weather flow is approximately 4.5. For rare, extreme events, ratios as high as 8 (or more) have been observed. The average flow at the plant is 1.7 MGD.	
5	What short-term measures have been implemented or plan to be implemented to mitigate the overflows? If actions are planned, when will they be implemented?	Short term measures that have been implemented include improving the sludge transfer process, prioritizing repairs based on work order comment conditions to reduce mechanical failures, SSO logging improvements, utilization of backup bypass pump systems, and improved photo/follow-up work order documentation through use of tablets and SEMS system.	A
6	What long-term measures have been implemented or plan to be implemented to mitigate the overflows? If actions are planned, when will they be implemented?	Long term measures that are in planning include utilizing portable backup pumps as well as permanent backup pumps and improving the general O&M and asset management procedures for the collection system. Long term measures will be discussed further in the CMOM Corrective Action Plan.	A
7	Describe your preventive maintenance program; how do you track it (e.g., card files, electronically, with specific software)?	The preventative maintenance software program SEMS incorporates work orders generated by plant staff from identification of a task, through work progress to completion and reminders. Preventative maintenance work orders are scheduled on a regular basis, and can be assigned to specific operators for completion. Then, the records can be linked to monthly and annual reports.	
8	How do you prioritize investigations, repairs and rehabilitation? What critical and priority problem areas are addressed more frequently than the remainder of	The Town inspected and assessed its Reinforced Concrete Pipe (RCP) sewer “ <i>main interceptor</i> ” pipeline and manholes in 2004 and 2009. From these assessments, Kleinfelder engineers recommended renewal of	A

* Put an “A” in the final column if this is an issue you intend to address with future action.

	your system? How frequently are these areas evaluated?	<p>approximately 12,300 liner feet of interceptor pipeline based on interceptor segments with PACP structural ratings equal to or greater than 4. The poor structural condition was a result of hydrogen sulfide induced corrosion to the internal pipe wall.</p> <p>The recommended renewal project was executed through two construction contracts in 2005 and 2010 with an associated cost of \$2.13 Million (in 2005/2010 dollars). The reported cost included construction and engineering, but not the cost of performing the assessments. The two contracts consisted of cured-in place pipelining (CIPP) of approximately 55% of the sewer interceptor, which ranged between 14 and 36 inches in diameter; as well as renewal of 15% of the interceptor manholes.</p> <p>There have been preliminary evaluations since Woodard & Curran has taken over the Operations and Maintenance of the WWTF in May of 2015, such as evaluating major assets and risk assessment of major forcemain sections. However, a formal strategy and plan of assessment needs to be addressed.</p> <p>The current operations contract with W&C provides some guidance and quotas for performing routine inspection and cleaning of the collection system, including recommended annual quotas for sewer CCTV, sewer cleaning, manhole inspections, grinder pump replacement and wet well cleaning. These inspection and cleaning quotas will be reevaluated and reprioritized as part of the CMOM Corrective Action Plan.</p>	
9	Are septage haulers required to declare the origin of their "load"? Are records of these declarations maintained? Do any of the declarations provide evidence of SSOs?	<p>No septage is accepted at this time.</p> <p>Landfill leachate from a Cohasset construction material landfill, that was historically trucked to the site for treatment, ceased prior to May of 2015.</p>	

III.A. Collection System Management Organizational Structure

IIIA	Question	Response	*Act
1	Do you have an organizational chart that shows the overall personnel structure for collection system operations, including operation and maintenance staff? Please attach your chart.	Yes. Woodard & Curran has an organizational chart (attached) which outlines the Town and Contract Operator staffing plan and the relationship between the organizations.	
2	For which jobs do you have up-to-date job descriptions that delineate responsibilities and authority for each position?	All of the Woodard & Curran positions have updated job descriptions and authority requirements.	
3	How many staff members are dedicated to collection system maintenance? Of those, how many are responsible for any other duties,	The Contract Operator has a staff of 6 full time, plus technical support staff, to oversee the wastewater system, both collections and treatment facility operation and maintenance. There are 2 summer interns and other part-	

* Put an "A" in the final column if this is an issue you intend to address with future action.

	(e.g., road repair or maintenance, O&M of the storm water collection system)? If so, describe other duties.	time support staff as well. The W&C staff also oversee the operation of the D Street storm water pump station.	
4	Are there any collection system maintenance position vacancies? How long has the position(s) been vacant?	There are no vacancies at this time.	
5	For which, if any, maintenance activities do you use an outside contractor?	Outside contractors are used for: <ul style="list-style-type: none"> - Sewer Jetting - Sewer Cleaning - CCTV - Repairs - Wet Well cleaning 	
6	Describe any group purchase contracts you participate in.	The Contract Operator participates in several group purchase contracts, such as USA Bluebook, Wind River and Waterline Industries.	

III.B. Collection System Management: Training

IIIB	Question	Response	*Act
1	What types of training are provided to staff?	Safety and technical training are provided to staff regularly in accordance with Contract Operation requirements and MA DEP Operator Certification requirements. Both in-house specialty training and external resources are utilized.	
2	Is training provided in the following areas: general safety, routine line maintenance, confined space entry, MSDS, lockout/tagout, biologic hazards, traffic control, record keeping, electrical and instrumentation, pipe repair, public relations, SSO/emergency response, pump station operations and maintenance, trench/shoring, other (describe)?	Yes. On a monthly basis, staff are required to participate in a safety meeting PureSafety training. Safety training topics include: <ul style="list-style-type: none"> - Hazard Communication (safety data sheets) - Biologic Hazards - Defensive Driving - Lockout/tagout - Fall Protection - Ergonomics Annual (or as needed) in-plant training is provided for the following items: <ul style="list-style-type: none"> - General Safety - Pump Station Operations and Maintenance - SSO/Emergency Response/EAP - Routine line maintenance - Confined space entry - Electrical and instrumentation 	
3	Which training requirements are mandatory for key employees?	All monthly training items listed above are mandatory for key employees. Additional programs such as forklift training or Qualified Electrical Workers are required for employees who utilize those pieces of equipment.	
4	How many collection system employees are certified (e.g, NEWEA certification program) and at what grade are they certified?	The Contract Operator Project Manager has a NEWEA Grade 3 Collections System certification. All O&M Staff have the appropriate Mass DEP Wastewater Certifications, and some of the staff have National Association of Sewer System Cleaning Operators (NASSCO) Pipeline Assessment and Certification Program (PACP) certification. One current on-site staff, one technical support staff and the Town of Hull DPW Director are NASSCO/PACP certified.	

* Put an "A" in the final column if this is an issue you intend to address with future action.

		Collections system subcontractors who preform inspections are NASSCO/PACP certified.	
--	--	--	--

III.C. Collection System Management: Communication and Customer Service

IIIC	Question	Response	*Act
1	Describe your public education/outreach programs (e.g., for user rates, FOG, extraneous flow, SSOs etc.)	The Sewer Department mails “Down the Drain” newsletters biannually to rate payers with information ranging from introduction to plant activities to emergency management of grinder pumps. The Town also utilizes a webpage for Sewer Department information. We also provide facility tours, when requested, for school children, interns, etc.	
2	What are the most common collection system complaints? How many complaints have you received in each of the past three calendar years?	The most common complaints include sewer blockage/backup issues and odor complaints.	
3	Are formal procedures in place to evaluate and respond to complaints?	Hull Sewer Department Office receives calls for sewer related complaints and passes them on to the Contract Operator to respond, per Contract Requirements.	
4	How are complaint records maintained (i.e., computerized)? How are complaints tied to emergency response and operations and maintenance programs?	Complaint records are maintained through work orders generated in SEMS. When a call is received from the Sewer Department, the WWTF is asked to respond or address the complaint as determined by the Sewer Dept. office.	A

III.D. Collection System Management: Management Information Systems

IIID	Question	Response	*Act
1	How do you manage collection system information? (Commercial software package, spreadsheets, data bases, SCADA, etc). What information and functions are managed electronically?	Collection system information is managed by several database systems including SCADA, CMMS (SEMS Technologies coupled with DoForms) and Hach WIMS. SCADA provides real time information associated with the pump stations and stores the data for basic trending. Hach WIMS and the CMMS are used to manage the daily inspection data and maintenance activities for the entire wastewater system.	A
2	What procedures are used to track and plan collection system maintenance activities?	The CMMS system (SEMS Technologies and DoForms) is used to manage and document scheduled, non-scheduled and other maintenance activities (Corrective, Emergency Repair etc.).	
3	Who is responsible for establishing maintenance priorities? What records are maintained for each piece of mechanical equipment within the collection system?	The W&C Operations contract sets basic inspection and cleaning quotas for the collection system. These quotas were developed over 10 years ago and will be updated during the CMOM Corrective Action Plan. For pump stations, there is a wet well cleaning and inspection schedule set by the Contract Operator, which is fulfilled, logged and reported through the SEMS Work Order System. Grinder Pump inspections or maintenance history is maintained by the Town Sewer Department and the Contract Operator. If there are potential issues with the grinder pumps, the Sewer Department receives the call and	A

* Put an “A” in the final column if this is an issue you intend to address with future action.

		processes a Work Order request through the Contract Operator.	
4	What is the backlog for various types of work orders?	As of October 22, 2016, there are currently 319 backlogged work orders. 25% Collection System 75% Wastewater Treatment Plant	
5	How do you track emergencies and your response to emergencies? How do you link emergency responses to your maintenance activities?	Emergencies are typically processed as an emergency or high priority work order, classified by type. For example, if a blockage is reported at an address, then the inspection of the sewer line and manholes upstream and downstream are documented using a high-priority Manhole Inspection form and any subsequent high-priority work orders. There are separate emergency documentation procedures for SSO's, Grinder Pumps and Safety items. Follow up repairs and inspections are scheduled using Work Order reference number in SEMS database. All forms are completed electronically.	
6	What written policies/protocols do you have for managing and tracking the following information: complaint work orders, scheduled work orders, customer service, scheduled preventative maintenance, scheduled inspections, sewer system inventory, safety incidents, emergency responses, scheduled monitoring/sampling, compliance/overflow tracking, equipment/tools tracking, parts inventory?	The WWTF electronically tracks the following items using DoForms and SEMS: <ul style="list-style-type: none"> - Complaints - Scheduled Service - Customer Service - Scheduled Preventative Maintenance - Scheduled Inspections - Safety Incidents - Emergency Response - Compliance/Overflow Tracking The Contract Operator is in the process of updating the WWTF O&M Manual which will include an updated equipment and parts inventory tracking procedure.	A

III.E. Collection System Management: SSO Notification Program

IIIE	Question	Response	*Act
1	What are your procedures, including time frames, for notifying state agencies, health agencies, regulatory authorities, and the drinking water authorities of overflow events?	See response to item 2 below.	
2	Do you use the state standard form for recording/reporting overflow events? If not, provide a sample copy of the form that is used.	We use the MA DEP standard form for recording/reporting overflow events. Please refer to the ERP dated 8/26/2016 for specifics.	

III.F. Collection System Management: Legal Authority

IIIF	Question	Response	*Act
1	Are discharges to the sewer regulated by a sewer use ordinance (SUO)? Does the SUO contain procedures for controlling and enforcing the following: <input type="checkbox"/> FOG;	Yes. The Town of Hull Permanent Sewer Commission adopted the Sewer Use Ordinance in its current form 10/26/1987. The SUO includes procedures for controlling: <ul style="list-style-type: none"> - FOG - Building Structures over Sewer Lines 	A

* Put an "A" in the final column if this is an issue you intend to address with future action.

	<input type="checkbox"/> Infiltration/ Inflow (I/I); <input type="checkbox"/> building structures over the sewer lines; <input type="checkbox"/> storm water connections to sanitary lines; <input type="checkbox"/> defects in service laterals located on private property; <input type="checkbox"/> sump pumps?	<ul style="list-style-type: none"> - Stormwater Connections - Service Lateral Defects - Sump Pumps - Grinder Pumps - Illegal Connections 	
2	Who is responsible for enforcing various aspects of the SUO? Does this party communicate with your department on a regular basis?	Enforcement of the SUO falls onto the Town of Hull, Chief Facility Manager (or designee) who communicates with the Contract Operator on a regular basis.	
3	Summarize any SUO enforcement actions/activities that have occurred in the last three calendar years.	Currently inspections to identify sump pumps is covered by the Town bylaw that when a property is transferring ownership, that an inspection is done. Approximately 150 sump pump inspections are performed per year. We have only found a handful of ones that needed to be corrected – approximately 7 or 8.	A
4	Do you have a program to control FOG entering the collection system? If so, which of the following does it include: <input type="checkbox"/> permits, <input type="checkbox"/> inspection <input type="checkbox"/> enforcement? Are commercial grease traps inspected regularly and who is responsible for conducting inspections?	There is a policy in place about installing grease traps. There is currently not an inspection program.	A
5	Is there an ordinance dealing with storm water connections or requirements to remove storm water connections?	§149-17 of Hull SUO prohibits stormwater and all other unpolluted drainage from being discharged to sanitary sewers.	
6	Does the collection system receive flow from satellite communities? Which communities? How are flows from these satellite communities regulated? Are satellite flow capacity issues periodically reviewed?	Yes, there is an Inter-Municipal Agreement (IMA) with Cohasset and Hingham for customer tie in to existing services. For the IMAs, bills are based on water meter readings as provided from the Towns – the flows could be compared to the units billed.	
7	Does the collection system receive flow from private collection systems? If yes, how is flow from these private sources regulated? How are overflows dealt with? Provide details, including contact information for these private systems.	The collection system receives flows from private grinder pumps. For any problems brought to the attention of the Sewer Dept. related to these privately owned grinder pumps, the owners are directed to contact the local vendor, FR Mahoney.	

IV.A. Collection System Operation: Financing

IV A	Question	Response	*Act
1	Has an enterprise (or other) fund been established and what does it include: wastewater collection and treatment operations; collection system maintenance; long-term infrastructure improvements; etc.?	A sewer enterprise fund has been established and it includes wastewater collection and treatment operations – collection system maintenance and debt payment for infrastructure improvements. A\$140K capital budget is included the contracted operations and the Sewer Department budget includes an additional \$200K. The Enterprise fund includes	A

* Put an "A" in the final column if this is an issue you intend to address with future action.

	Are the funds sufficient to properly fund future system needs?	costs of administration and of items such as insurance and payments to the general fund for health insurance, pension, support for accounting, legal, treasurer/collector etc. There is a WWTF Capital Assessment underway, which will include collection system needs, to be presented to the Permanent Sewer Commission for attention.	
2	How are rates calculated (have you done a rate analysis)? What is the current sewer charge rate? When was it last increased? How much was the increase?	Rates are calculated by taking the total budgeted costs divided by the total number of 100 cubic foot units billed. Hull rates are then offset by rehabilitation fees, permits, and free cash balances. The current rate is \$11.34 and the Hull subsidized rate is \$9.42. This rate went into effect on billing starting 1/1/15-12/31/15 and received during fiscal year 2016. The percent increase was 42%. This increase was necessary as the debt to repair the plant from the failure came on line and the new 10-year contract with the plant operator resulted in increased costs.	
3	What is your O&M budget?	The O&M budget is \$3,026,000, not including debt service.	
4	If an enterprise fund has not been established, how are collection system maintenance operations funded?	N/A	
5	Does a Capital Improvement Plan (CIP) that provides for system repair/replacement on a prioritized basis exist? What is the collection system's average annual CIP budget?	We are currently doing an assessment of the plant and the collection system needs to develop a prioritized CIP. Implementation will be part of the CMOM Corrective Action Plan. Overall budget spent from 2005 to 2015 was an average of \$386,000 per year for collection system work.	A
6	How do you account for the value of your system infrastructure for the Government Accounting Standards Board standard 34 (GASB 34)?	GASB 34 – annually major assets purchased during the fiscal year are provided to the accounting office. Straight line Depreciation is applied to the assets.	

IV.B. Collection System Operation: Hydrogen Sulfide Monitoring and Control

IV B	Question	Response	*Act
1	Are odors a frequent source of complaints? How many have been received in the last calendar year?	Odors are a frequent source of complaint as there are several immediate neighbors surrounding the WWTF. 33 complaints occurred during the last calendar year, with more than half occurring between May and August.	
2	Do you have a hydrogen sulfide problem, and if so, do you have corrosion control programs? What are the major elements of the program?	Hull has extreme hydrogen sulfide problems and related corrosion. This past summer we used (seasonal) ferric chloride addition in the collection system, installed wet well aerators and we are adding IN-PIPE bacteria to 20 locations within the collection system to reduce FOG and sulfides.	A
3	Does your system contain air relief valves at the high points of the force main system? How often are they	The collection system does not contain air relief valves at forcemain highpoints on any of the 7 main pump stations.	A

* Put an "A" in the final column if this is an issue you intend to address with future action.

	inspected? How often are they exercised?	The grinder pump pressure lines need to be evaluated and inspected to determine the existence and condition of any air/vac relief valves.	
--	--	---	--

IV.C. Collection System Operation: Safety

IV C	Question	Response	*Act
1	Do you have a formal Safety Training Program? How do you maintain safety training records?	Yes. The Contract Operator has a formal safety program which outlines training, awareness and protection equipment for all staff and contractors. Safety records are maintained through specific location logs	
2	Which of the following equipment items are available and in adequate supply: <input type="checkbox"/> rubber/disposable gloves; <input type="checkbox"/> confined space ventilation equipment; <input type="checkbox"/> hard hats, <input type="checkbox"/> safety glasses, <input type="checkbox"/> rubber boots; <input type="checkbox"/> antibacterial soap and first aid kit; <input type="checkbox"/> tripods or non-entry rescue equipment; <input type="checkbox"/> fire extinguishers; <input type="checkbox"/> equipment to enter manholes; <input type="checkbox"/> portable crane/hoist; <input type="checkbox"/> atmospheric testing equipment and gas detectors; <input type="checkbox"/> oxygen sensors; <input type="checkbox"/> H2S monitors; <input type="checkbox"/> full body harness; <input type="checkbox"/> protective clothing; <input type="checkbox"/> traffic/public access control equipment; <input type="checkbox"/> 5-minute escape breathing devices; <input type="checkbox"/> life preservers for lagoons; <input type="checkbox"/> safety buoy at activated sludge plants; <input type="checkbox"/> fiberglass or wooden ladders for electrical work; <input type="checkbox"/> respirators and/or self-contained breathing apparatus; <input type="checkbox"/> methane gas or OVA analyzer; <input type="checkbox"/> LEL metering?	<input type="checkbox"/> rubber/disposable gloves; - YES <input type="checkbox"/> confined space ventilation equipment; - YES <input type="checkbox"/> hard hats, - YES <input type="checkbox"/> safety glasses, - YES <input type="checkbox"/> rubber boots; - YES <input type="checkbox"/> antibacterial soap and first aid kit; - YES <input type="checkbox"/> tripods or non-entry rescue equipment; - YES <input type="checkbox"/> fire extinguishers; - YES <input type="checkbox"/> equipment to enter manholes; - YES <input type="checkbox"/> portable crane/hoist; - YES <input type="checkbox"/> atmospheric testing equipment and gas detectors; - YES <input type="checkbox"/> oxygen sensors; - YES <input type="checkbox"/> H2S monitors; - YES <input type="checkbox"/> full body harness; - YES <input type="checkbox"/> protective clothing; - YES <input type="checkbox"/> traffic/public access control equipment; - YES <input type="checkbox"/> 5-minute escape breathing devices; - N/A <input type="checkbox"/> life preservers for lagoons; - N/A <input type="checkbox"/> safety buoy at activated sludge plants; - YES <input type="checkbox"/> fiberglass or wooden ladders for electrical work; - YES <input type="checkbox"/> respirators and/or self-contained breathing apparatus; - N/A <input type="checkbox"/> methane gas or OVA analyzer; - YES <input type="checkbox"/> LEL metering -YES	

IV.D. Collection System Operation: Emergency Preparedness and Response

IV D	Question	Response	*Act
1	Do you have a written collection system emergency response plan? When was the plan last updated? What departments are included in your emergency planning?	Yes, the Contract Operator developed a written Emergency Response Plan (ERP) in August 2016. Town Sewer Department, Town Manager, and Town Emergency Response Committee were coordinated with as a part of the plan.	
2	Which of the following issues are considered:	Within the Emergency Response Plan, all of the following issues are considered:	

* Put an "A" in the final column if this is an issue you intend to address with future action.

	<input type="checkbox"/> vulnerable points in the system, <input type="checkbox"/> severe natural events, <input type="checkbox"/> failure of critical system components, <input type="checkbox"/> vandalism or other third party events (specify), <input type="checkbox"/> other types of incidents (specify)?	<ul style="list-style-type: none"> - Vulnerable points in the system (critical pump stations to address immediately, low points in the collection system) - Storm Events and Predicted High Flow Scenarios - Backup Systems Initiation due to pump failure/generator use - SSO's - Internet/Electrical Outages - Town of Hull Emergency Notification Procedures 	
3	How do you train staff to respond to emergency situations? Where are responsibilities detailed for personnel who respond to emergencies?	Staff is trained by holding Mock Storm Drills, as part of the mock drills we update ERP plan and review with staff. ERP defines responsibilities.	
4	How many emergency calls have you had in the past calendar year?	There have been 2 Emergency Calls in the past calendar year.	

IV.E. Collection System Operation: Engineering – Capacity

IV E	Question	Response	*Act
1	How do you evaluate the capacity of your system and what capacity issues have you identified, if any? What is your plan to remedy the identified capacity issues?	Capacity was evaluated previously in 1977, 1984 and 1998 the plant has adequate capacity for normal flow, but not for extreme flow events, such as the “No-Name” storm of 1991. Several requests have been submitted in the past to allow for by-passing of extreme flows beyond the capacity of the sewer system; this currently occurs using portable emergency pumps on an as needed basis.	A
2	What procedures do you use to determine whether the capacity of existing gravity sewer system, pump stations and force mains are adequate for new connections? Who does this evaluation?	Currently there are no system in place except for the treatment facility influent and effluent flow meters.	A
3	Do you charge hookup fees for new development and if so, how are they calculated?	The town charges a rehabilitation fee – it is based on the Flow Estimation Table from the MA DEP 314CRM 7.15 stating that each bedroom uses 110 gallons a day. The cost per equal dwelling unit (normally a bedroom) is \$500.00. The Flow Estimate Table is used to calculate a equal dwelling unit for places like a restaurant. Each seat in a restaurant uses X gallons per day – for each 110 gallons a day we charge \$500.00	
4	Do you have a hydraulic model of your collection system? Is it used to predict the effects of system remediation and new connections?	No.	A

* Put an “A” in the final column if this is an issue you intend to address with future action.

IV.F. Collection System Operation: Pump Stations - Inspection

IV F	Question	Response	*Act
1	How many pump stations are in the system? How often are pump stations inspected? How many are privately owned, and how are they inspected? Do you use an inspection checklist?	7 major pump stations and over two hundred grinder pumps, of which about 175 are owned by the town. See section I.2 for more details.	
2	Is there sufficient redundancy of equipment at all pump stations?	Currently no	A
3	How are pump stations monitored? If a SCADA system is used, what parameters are monitored?	Pump stations are monitored using SCADA. Flow, power status and communication are monitored. System is old and unreliable, needs to be upgraded to current technology.	A
4	How many pump station/force main failures have you had in each of the last three years? Who responds to pump station/force main failures and overflows? How are the responders notified?	Two – PS 4 and PS 3 See ERP for response plan	
5	How many pump stations are equipped with backup power sources? How many require portable generators? How many portable generators does your system own? Explain how the portable generators will be deployed during a system-wide electrical outage.	See section I.2. The portable generator for PS A is kept at the wastewater plant and deployed when needed.	
6	Are operation logs maintained for all pump stations? Are the lead, lag, and backup pumps rotated regularly?	Pump station checks are logged in DoForms daily. Pumps are typically running in alternating control mode.	
7	Is there a procedure to modify pump operations (manually, or automatically), during wet weather to increase in-line storage of wet weather flows? If so, describe.	NO ... possible plan to be evaluated as part of the CMOM Corrective Action Plan	A

V.A. Equipment and Collection System Maintenance: Sewer Cleaning

V A	Question	Response	*Act
1	What is your schedule for cleaning sewer lines on a system-wide basis? At this frequency, how long will it take to clean the system? How are sewer cleaning efforts documented?	Contract has a quota of 20 % per year, actual is less based on priority needs. To be reevaluated as part of the CMOM Corrective Action Plan. Plan is to utilize PACP guidelines and reporting.	A
2	How many linear miles of the collection system were cleaned in each of the past 3 calendar years?	2013 – Approx. 1 mile 2014 – approx. 9.9 Miles inspected, and cleaned as needed 2015 – less than 0.5 miles	A
3	How do you identify sewer line segments that have chronic problems and should be cleaned more frequently? Is a list of these areas maintained and cleaning frequencies established?	Kleinfelder December 16 2014 Kleinfelder June 17 2016 To be reevaluated as part of the CMOM Corrective Action Plan.	A
4	Approximately, how many collection system blockages have occurred during the last calendar year, and what were the causes?	27 Reported blockages since W&C took over in May of 2015 until Oct. 2016	A
5	Has the number of blockages	The number of blockages has stayed about the same.	

* Put an "A" in the final column if this is an issue you intend to address with future action.

	increased, decreased, or stayed the same over the past five years?		
6	What equipment is available to clean sewers? Is any type of cleaning contracted to other parties? If yes, under what circumstances?	SL Rat – inspection device Contractors are used f for sewer cleaning, both for regular basis and emergency service.	A
7	Do you have a root control program? Describe its critical components.	There is currently no root control program.	

V.B. Equipment and Collection System Maintenance: Maintenance Right-of-Way

V B	Question	Response	*Act
1	Is scheduled maintenance performed on Rights-of-Way and Easements? At what frequency? How many manholes in easement areas cannot be located?	Within the last calendar year, there has been no scheduled maintenance within Rights-of-Ways/Easements.	A
2	Are road paving projects coordinated with the collection system operators? Have manholes been paved over? How many manholes in paved areas cannot be located? Describe any systems in place for locating and raising manholes that have been paved over.	Yes, road paving projects are typically coordinated with the Contract Operator through the Department of Public Works. There have been no known manholes paved over nor are there any known manholes in paved areas which cannot be accessed.	

V.C. Equipment and Collection System Maintenance: Parts Inventory

V C	Question	Response	*Act
1	Do you have a central location for the storage of spare parts?	Spare parts are located in the Wastewater plant	
2	How have critical spare parts been identified?	Not at this time	A
3	How to you determine if adequate supplies on hand? Has an inventory tracking system been implemented?	Inventories of spare parts are kept on Excel logs, which can help with ordering supplies. A formal inventory tracking system has not been implemented.	A

* Put an "A" in the final column if this is an issue you intend to address with future action.

VI A. SSES: System Assessment

VI A	Question	Response	*Act
1	Do POTW flow records or prior I/I or SSES programs indicate the presence of public/private inflow sources or sump pumps? Please Explain.	YES Plant historical flow data and prior system assessments indicated public and private I/I	
2	If problems are related to I/I, has a Sewer System Evaluation Survey (SSES) been conducted? When? What is the status of the recommendations?	Various studies have been done over the years 1974 study by Whitman & Howard 1983 Evaluation by Black & Veatch 1984 study by CDM 1999 Summary study by Tighe & Bond 2005 Straights Pond area study by W&C Proposed SSES will be part of the CMOM Corrective Action Plan.	A
3	Do you have a program to identify and eliminate sources of I/I into the system including private service laterals and illegal connections? If so, describe.	No. CMOM Corrective Action Plan will address the future I/I program to meet permit and MA DEP requirements.	A
4	Have private residences been inspected for sump pumps and roof leader connections?	Programs to identify and remove sump pumps was performed several times in the past.	
5	Are inspections to identify illicit connections conducted during the property transfer process?	Yes. Currently inspections to identify sump pumps is covered by the Town bylaw that when a property is transferring ownership, that an inspection is done.	
6	How many sump pumps and roof leaders have been identified? How many have been removed?	The sump pump inspection bylaw was passed in May 2007. Approximately 7 or 8 have been redirected. (Realtors know that the sump pumps need to be directed outside so they make sure that they are directed outside before we come to inspect them – similar to they change the smoke detectors before the fire department comes to inspect.)	
7	Have follow-up homeowner inspections been conducted?	Follow up inspections were done for the five or six we found.	
8	What incentive programs exist to encourage residences to disconnect roof leaders & sump pumps? (i.e. matching funds, etc.)	No current incentive program	
9	What disincentive programs exist to encourage residences to disconnect roof leaders & sump pumps? (i.e. fines, surcharges)	A fine of \$25.00 per day for each day in violation can be imposed – So far when we have found an illegal sump pump, they fix it the same day so they can sell the property.	

VI.B. SSES: Manhole Inspection

VI B	Question	Response	*Act
1	Do you have a manhole inspection and assessment program?	Manholes are currently inspected as needed based on preventative maintenance capacities. The PACP type 1 assessment using a standard inspection form is currently used. A manhole repair program is needed.	A

* Put an "A" in the final column if this is an issue you intend to address with future action.

2	Has a formal manhole inspection checklist been developed?	Yes, a formal manhole inspection checklist has been developed in accordance with NASSCO standards.	
3	How many manholes were inspected during the past calendar year?	277 manholes were inspected between May 1, 2015 and September 30, 2016.	

VII. Energy Use

VII	Question	Response	*Act
1	What is your annual energy cost for operating your system? For which pieces of equipment do you track energy use?	The approximate annual energy cost for the wastewater treatment plant is \$233,000. Individual pieces of equipment are not tracked for energy usage, but the wastewater plant and the collection system pump stations have individual meters.	
2	Have you upgraded any of your pumps and motors to more energy efficient models? If so, please describe.	The aeration blower system was upgraded in 2002, replacing the mechanical aerators for ½ of the wastewater plant. Several of the pump stations have been retrofitted with VFDs and when motors are replaced, more energy efficient motors meeting current energy efficiency standards are installed.	
3	Have you performed an energy audit in the past three years?	No. An energy audit has not been performed within the last three years.	
4	Where do you use the most energy (fuel, electricity) in operating your collection system?	For the collection system, the highest energy use is the pump stations pump motors and the individual grinders in each household located on the low pressure sewer. We also recently installed wet well aeration units to reduce FOG and ragging issues.	
5	If you have a treatment plant, would you be interested in participating in EnergyStar benchmarking of your treatment plant?	Yes. The Plant would like to be included for participating in an Energy Star benchmarking.	A

VIII. Other Actions

VIII	Question	Response	*Act
1	Describe any other actions that you plan to take to improve your CMOM Program that are not discussed above.	The Town of Hull and its utility stakeholders have recently completed a draft EPA Climate Resiliency Evaluation and Awareness Tool (CREAT) Report which assessed climate change threats to utility assets and will be a helpful tool moving forward for capital planning. The report is under comment and review phase, but pursuit of hazard mitigation grants (including overall collection system improvements for resiliency) will aid in the execution of the CMOM program and its objectives.	A

* Put an "A" in the final column if this is an issue you intend to address with future action.

APPENDIX B: COLLECTION SYSTEM WORK ORDERS

- 1. 2016 WORK ORDER SUMMARY**
- 2. 2016 SAMPLE WORK ORDERS**

2015 DoForms/SEMS CMOM Work Orders

Workorder Asset Name	Workorder Number	WO History Status Date	Workorder Description	WO History Notes	WO History Status
20 - WW - collections - general	1498	1/27/2016	45 hull shore drive hotel	Responded to hotel for back ups opened manhole #20811 and 20813 for flow # 20811 was fine # 20813 coming from hotel was full of debris and grease restricting the flow to the main had to call Ras Sano Davis from Cohasset to clean manhole	Completed
	1596	2/17/2016	25 Main Street	J Dow determined homeowner issue	Completed
	1618	2/16/2016	Manhole Inspection Gunrock Ave	Need to confirm mh location	Completed
	1623	2/17/2016	Inspection of the sewer main for a complaint of sewer backup,	Assistant, Kevin Stetson,	Completed
	1704	2/19/2016	Blockage at 25 Main Street, Keith Connelly ✓	Assisted by JB & ES. Inspect lateral at 25 main street. Cleanout in driveway - found cap off and evidence of leak. Attempt to snake line, flush with jetter from WRiver, and try camera. Line still had water in it. Town to call Hub Constr.	Completed
	1705	2/19/2016	Pre marked sewer line so digging crew can dig up water line	Pre marked street for sewer lines with Jim Dow	Completed
	1706	2/19/2016	Opened manhole to confirm sewer line running down on Townway	Opened manhole to confirm sewer line running down Townway	Completed
CAMERA	1707	2/22/2016	Camera Lateral line to the main for J Dow	Camera Lateral to main line all clear	Completed
	1733	2/29/2016	34 porro rd.	Check for flow from top of hill on porrazzo rd. To the bottom, checking 5 manholes flow is normal in all 5 manhole checks,	Completed
	1853	2/29/2016	34 Porrazzo Road	Check for flow from top of hill on porrazzo rd. To the bottom, checking 5 manholes flow is normal in all 5 manhole checks, MH 20815, 20812, 20800, 20801, 20796	Completed
VACTOR DEBRIS	1911	6/3/2016	Address pit at the dump before Windriver comes back		Completed
				gratta cleaned pit	Completed
	1912	3/4/2016	34porrazzo rd.	Responded to 34 porrazzo rd, with camera to check km piping from the house to the repair, and the pipe to the street. All was found to be clear. Hub construction did all work to repair the connection that failed!	Completed
VACTOR	1973	7/22/2016	Inspection of landfill debris pit		Completed
	2107	4/13/2016	Pit at the dump	Removal of debris at pit	Completed
	2224	5/3/2016	12 Harborview Road, Alice. 781 925 9222. Toilet flush backed up into tub.	Water main break same day. Expected pressure in pipes. Flushed toilet again after relieving pressure from pipes by having faucet run. Flowing normally now.	Completed
	2228	5/3/2016	Sue Merna 9 Warren Ave # 781 773 1323	Opened manhole in street system flowing freely	Completed
	2282	5/14/2016	Salt water diner 514 Nantasket Ave	12:30 to 3:30pm opened MH 20596 and MH 20614 for flow street flowing freely	Completed
	2337	5/31/2016	32 Merrill Road	Checked MH 20799 and MH 20815. Flowing freely.	Completed
	2469	6/20/2016	Jeanne Parkes of 8 Andrew Road, 781 925 5156. Backup Call	Checked MH20782 and MH20788	Completed
	2470	6/20/2016	Jeanne Parkes of 8 Andrew Road, 781 925 5156. Backup Call	Checked MH20782 and MH20788	Completed
	2481	6/21/2016	183 a nantasket ave backup	Popped 3 manholes	Completed
ODOR	2488	6/29/2016	Odor Complaint at 132 Bay Street, Patricia Donovan, House number is 781 773 1141. Cell phone number 508 243 8523.	Checked Manholes 20801 and 20796. Flowing freely. Used Jerome H2S meter in building. No gases detected using Jerome. Informed Patricia Donovan to contact plumbing service to further identify odors inside her residence. Assisted by Eric Sutton	Completed
	2491	6/28/2016	168 samoset ave nicole naumenko 781 925 9081	Opened manhole 20548, 20539 street flowing freely. Constant Flow plumbers on site pulled a root ball from clean out in her house system now operational	Completed
VACTOR	2654	7/7/2016	Debris removal scum pit at the hull dump	Removal of debris from vactor truck at dump scum pit, there was two times for this removal total time 1.5	Completed
I	2690	7/15/2016	Multiple alarms	Reset all assets in alarm	Completed
	2839	8/5/2016	83 manomet, ave. Blockage back up, in house	Inspection of manholes, at 83 manomet Avenue MH20635, MH 20648 and MH20660 found that the flow of the line in street is normal, notify the residence that the problem is in the house, no problem with the flow in sewer line.	Completed
ODOR	2852	8/15/2016	Odor complaint 395 Nantasket		Completed
ODOR				No H2S detectable at time of respons	Completed
	2890	8/25/2016	Delivering Handouts for force main repair on Nantasket Ave next to Hotel.	Delivered notice to surrounding houses of Pump Stations 3 and 4	Completed
	2894	8/26/2016	4inch portable water pump 5 hp.	Exhaust system is not attached to engine due to snapped bolts that need to be removed from the head of engine drill and re,tap threads and reassemble change the oil, disassembled carburetor to clean jets and float bowl. Add fuel and pump runs awesome! ! Add to the inventory list a good working pump! !	Completed
DIGSAFE	2897	8/29/2016	3 Vautrinot markout	Mark out sewer	Completed
	2898	8/29/2016	110 Draper Ave Digsafe mark out	Mark out sewer	Completed
	2899	8/29/2016	193 Samoset Ave mark out	Mark out sewer for Digsafe	Completed
	3006	9/1/2016	160 Catfish Digsafe	Mark out sewer	Completed
	3007	9/1/2016	822 nantasket ave digsafe	Mark out of sewer	Completed
	3008	9/1/2016	Digsafe mark out 43 Whitehead ave	Digsafe mark out	Completed
	3009	9/1/2016	Digsafe mark out 75 H street	Mark out sewer complete	Completed
	3065	9/30/2016	5 Eastern ave back-up call plumber on site need to check st	Es,Rc arrived at location opened 2 manholes, (1) 20825, 20822 both manholes flowing freely. Spoke to homeowner told her street was fine she said plumber was coming back in monday	Completed
600 JETTING	3257	10/26/2016	Jetted 600 feet between meridian ave and Beacon ave on Holbrook ave and vacuumed two manholes 20180 and 20210	See description jet and vacuumed Holbrook ave with wind river	Completed
	3268	10/28/2016	25 Summit Ave.	Inspect manholes 20982, 20985 and sure manhole/cleanout in bushes in between #33 and #37. No issues and flowing ok. house no 25, 29,33,37,37A all flow into a file behind these houses. Clear and flowing. No other cleanout outside. Report back to homeowner.	Completed
	3276	10/31/2016	Sewer service broken by hull light at 152 Spring Street	BB and ES inspected broken service and notified Town of needed repairs	Completed
	3367	11/3/2016	#6 Holbrook Ave	ES & BB inspected sewers. Home owner called roto rooter to snake sewer service on property	Completed
	3370	11/3/2016	Sewer lateral inspection at 48 Holbrook Ave	ES, BB Inspected broken service and reported the issue back to the Town Sewer Dept of repair needed	Completed

	3372	12/1/2016	6 Holbrook ave	roto roter came cleared line camered line found issues on her property homeowner took care of problem	Completed
SAFETY	3426	11/29/2016	ps 1 ladder	Now secure	Completed
	3557	12/9/2016	37 Tierney Ave. Ester Stevens 90 years old 781 925 0921 has a issue with her toilet and shut the valve, next day she couldn't open valve joe and I opened valve checked the 2 toilets everything seems o	See description above	Completed
	3573	12/14/2016	Manhole Inspection	Inspected Newport road area - bill assisted by Joe	Completed
	3575	12/15/2016	9 Willow st 781 925 1889 back-up call	930 am to 10:00 am eric bill arrived at location opened manholes 20050 on Spring st and 1 on Main st MH 20045 both line flowing freely	Completed
	3617	12/30/2016	26 Western Ave	Visit location at 1230pm, sewage coming up through floor drain in garage. Inspect street manholes & found #20388 surcharged. Rosano Davis only pumper/contractor available. Still blockage in street. Clean garage area & set up for vector truck on Sat.	Completed
PLANT	3621	12/31/2016	Chlorine distribution valve for effluent	Disassemble valve and dislodge debris	Completed
	3622	12/31/2016	Western Ave	Arrive at 7am, there until 10 am with WRIVER vac/jet truck. Mike Decosta and Jason from WR. Mark road where suspected blockage area is. Inform homeowner, Town, & Hub construction.	Completed
22 - WW - sewers/pipes/force mains	1429	1/5/2016	Ray Sarno (plumber) called to check manhole in street for flow at 173 Atlantic Ave	Opened 2 manholes for blockage system flowing freely	Completed
	1431	1/5/2016	Ray Sarno (plumber) called to check manhole in street for flow at 173 Atlantic Ave	Opened 2 manholes for blockage system flowing freely	Completed
	1434	1/5/2016	Manhole Inspection	Opened manhole for flow system flowing freely	Completed
	1586	2/7/2016	Sewage leaking into residents house. Called in to check manholes around 48 Highland Ave.	Checked manholes MH 20060 and MH 20056 flowing properly.	Completed
	1687	2/18/2016	Open 2 manholes on Fitzpatrick way on northeast side of bridge at this time no assigned numbers	Using a 24 millimeter socket manhole bolted down which bolts do unscrew fairly easy flow was flowing freely	Completed
	1688	2/18/2016	Check 2 manholes on Fitzpatrick way on northeast side of the bridge	Inspection of manhole flowing freely	Completed
JETTING & CCTV	1698	3/7/2016	Overall inspection and cleaning of manholes on Atlantic Ave, Gunrock Ave manhole #s are 20962, 20965, 20967, 20968, 20969, 20966, 20964, 20960, 20961 this when done will complete this area	GUNROCK WORK	Completed
	1700	2/19/2016	Inspection of manhole after cleaning charged manhole 20827	Opened manhole cleaned debris from manhole	Completed
	1871	3/7/2016	Informative W/O for Gunrock Ave and Atlantic Ave, Jetting cleaning, and camera work		Completed
	1968	3/30/2016	Back-up call at 39 Bay st Joe McLaughlin 39 Bay st cell # 617 653 2420 talked to homeowner advised to call plumber	Opened manhole inspected flow street flowing freely	Completed
Jetting	2081	4/6/2016	Back-up call at 37 Summit Ave Ted Sapienze cell # 617 750 0814	Jetted line from clean out located under hedge between 33&37 Summit jetted towards the sweeps, when saw jet nozzle pulled back added dye saw dye at sweeps and at manhole 20977. Then advised homeowner to call a plumber, then call to let us how he made out	Completed
IN-PIPE	2095	4/6/2016	Installation of bacteria unit # 2 in front of Jacobs school this is a un-mapped manhole	Installation of bacteria unit #2	Completed
	2099	4/9/2016	Water main break at nantasket ave and H st	Went to location used GPS map showed foreman sewer main line on nantasket ave and each side of H st called Jim Dow to get a tie card for 1 house of concern he said it would be fine	Completed
IN-PIPE	2100	4/9/2016	Inoculation of bacteria in 11 manholes dispersed around town with 5 gallons in each manhole	Opened manhole inoculated with 5 gallons in each manhole	Completed
IN-PIPE	2118	4/21/2016	Inoculation of bacteria in 11 manholes dispersed around town with 5 gallons in each manhole	Opened manhole inoculated with 5 gallons of bacteria in each manhole. Also cleaned all rims and secondary covers of dirt for future openings so no dirt falls into manhole put dirt in a 5 gallon bucket and disposed at plant dumpster	Completed
	2223	5/3/2016	Back-up call on 9 warren st. Checked 4 manholes in area	MH 20562 at 9 Warren flowing freely. Also checked upstream MH 20591, 20604, 20617 advised homeowner to recall her plumber and investigate further on issue.	Completed
	2235	5/3/2016	Picture of manhole inspection	Opened 4 manholes found issues	Completed
IN-PIPE	2247	5/5/2016	Inoculation of bacteria in 11 manholes dispersed around town with 5 gallons in each manhole	Opened manhole inoculated with 5 gallons of bacteria in each manhole.	Completed
IN-PIPE	2251	5/6/2016	Replaced the 30 day bacteria bottles in 8 of the of the 11 manholes. See notes	5/6/16 completed replacing bacteria bottles in manholes 20978, 20803	Completed
	2268	5/10/2016	Manhole Inspection	Opened manhole took picture sent to jim with other information	Completed
	2283	5/14/2016	Back-up call at 514 Nantasket Ave, hardware, saltwater diner, jade restaurant all experiencing blockages. Advised building owner to call a plumber for problem	Investigated situation took pictures gathered a history of area from myself, Paul Gratta, Jim Dow, Arum, conclusion was situation is the buildings issue	Completed
IN-PIPE	2308	5/22/2016	Summary of inoculation of eight bacteria units. Units 12 thru 20	Summary report	Completed
	2334	5/29/2016	Backup Call 20 Wyola Road, Pamela Knight 781 925 1383	Checked Manhole 20863. Flowing freely. No grinder pump on property or that side of street for any house. Advised homeowner to call plumber.	Completed
	2339	5/29/2016	20 Wyola Road. Pamela Knight 781 925 1383	Checked Manhole 20863. Flowing freely. No grinder pump on property or that side of street for any house. Advised homeowner to call plumber.	Completed
ODOR	2340	5/31/2016	Odor Complaint. 50 Summit Avenue, Joann Thompson 781 925 4631	Jerome readings around property and Nantasket Avenue. No readings above .003. At this time no odors found. Resident believed the odor was coming from Straits Pond	Completed
	2471	6/20/2016	Service Call. Backup at 8 Andrew Road, Jeanne Parkes 781 925 5156	Checked Manhole 20782 and MH 20788	Completed
	2490	6/28/2016	Back up call 168 samoset ave	Opened manholes 20548, 20539 street flowing freely see manhole inspection DO form	Completed
F.M. REPAIR	2498	6/29/2016	MH 20811, Windriver in to dismantle corroded force main pipe, and camera line	Opened manhole, confined space entry performed, fire department notified. Windriver cut pipe in 3 sections and hoisted out and removed from site	Completed
	2499	6/29/2016	Removal of debris from MH 20811 at the dump pit	Removal of debris	Completed
Forcemain repair	2502	6/30/2016	MH 20811 force main discharge pipe debris from station 3	Opened manhole dismantled pipe removed from site	Completed

grinder	2675	7/13/2016	Hub Construction installing new piping for a grinder pump at the of North truro rd	Hub Construction,dug trench,exposed existing pipe had pump truck on site to drain the line, pipe was cut, connection was installed, a street shut off pipe also installed, then back filled. Less than five gallons was spilled in the hole	Completed
grinder	2676	7/13/2016	North truro rd shut down of 14 town owned grinders and 1 FR mahoney grinder at # 202 truro	Arrived at location coordinated with Hub Construction turned off 15 grinders when installation of pipe and trench partially back filled W/C employees turned grinders back on	Completed
grinder	2689	7/14/2016	Hub Construction installing new piping for a grinder pump at the of North truro rd	Hub Construction,dug trench,exposed existing pipe had pump truck on site to drain the line, pipe was cut, connection was installed, a street shut off pipe also installed, then back filled, Less than five gallons was spilled in the hole	Completed
grinders	2699	7/20/2016	54 Wyola rd Farrell excavation in to hook up new service	Turned 15 grinders on street, contractors cut pvc pipe, Rosano Davis on site with vactor truck less than 3 gallons of sewage was spilled contractors hooked service up and put a shut off stem pipe at location ,then back filled trench. WC turned grinders back in the "ON POSITION"	Completed
DIGSAFE	2722	7/27/2016	Hub Construction digging water line for hook up for new house, Hub needed to know where house 218s line connects to street line. Also Hub will complete a new tie card when finished	Arrived at location reviewed drawings and got some new measurements to new house line, shut off and check valve	Completed
	2840	8/6/2016	Manhole Inspection	Inspection only, flow is normal at manhole 20635, 20648, and 20660	Completed
DIG SAFE	2891	8/25/2016	Dig safe pre marking for DPW 3 catch basins being worked on Moreland Ave	Located sewer lines and laterals on 4 houses from map drawings addresses are 17- 15- 13-11	Completed
	2896	8/29/2016	Backup Call for 9 Mayflower Road, Joel 972 904 7204	Checked MH 20251 and MH 20204. Flowing freely	Completed
	3012	9/6/2016	159 Nantasket Ave and Berkley schooners restaurant back up call this cross country is solely for schooners restaurant	Arrived on site opened 2 manholes. 1 cross country in parking lot on park ave which is unmapped and 1 in street in front of 12 park ave which also unmapped after 2 hrs plumber cleared line	Completed
	3013	9/6/2016	159 Nantasket Ave schooners restaurant inspected manhole do to full grease trap which caused line to clog	Arrived at location worked with plumber eventually line was cleared	Completed
	3014	9/6/2016	159 Nantasket Ave schooners restaurant back up call	Arrived at location worked with plumber line was cleared	Completed
JETTING	3017	9/12/2016	Windriver in to jet 2 manholes do to a previous back-up call at 159 Nantasket Ave schooners restaurant	Arrived at location jetted 2 manholes that are unmapped cleared lines which were not bad. Plumber on site he removed cap to clean out to verify line from jetter had reach clean out line flowing freely	Completed
CAMERA	3198	10/4/2016	5 Eastern ave camera line for Hub Construction repairing broken pipe from clean out to sewer main	As Cameraing line noticed 4ft in the pipe had broke off and dipped down about 2" from existing pipe Hub Construction had to extend trench to repair	Completed
	3211	10/6/2016	29 Main st, contractors on site Es,Bb inspect capped line, before contractors bury line	Arrived on location, took picture of capped line, spoke to contractor who supplied us with a tie card before burying which Bill B was going to clean up before giving to Carroll for being filed	Completed
	3260	10/26/2016	Water Main break at 46 H street. Need sewer dept. to identify sewer lines	Using tie card to identify and mark sewer lines while aquarion water repaired water break.	Completed
CAMERA	3383	11/9/2016	Camera line at 10 western ave	4ft into street line was separated notified jim dow of issue homeowner will continue digging into the street on Thursday expose pipe then have jim dow examine issue	Completed
	3561	12/12/2016	Elizabeth Cossette, 830 Nantasket Ave. 781 925 1807. Toilet Issue. Believes it is soot buildup.	Examined toilet. Little debris present. Believed to be mold growing in tank of toilet. Not wastewater related. Building up over the course of a few years. Advised to contact Aquarion if resident wants to pursue further.	Completed
SSO ↓	3588	12/19/2016	Bart Kelly assistant building inspector notified Hull WWTP of a overflowing manhole cover on Atlantic Ave in front of the playground near 205 Atlantic Ave	Arrived at location evaluated situation called Rosano Davis for a pump truck and jetter. Jetted 5 manholes about 700 ft street flowing freely, SSO occurred about 250 gallons Rosano cleaned street we lined affected area Aram notified	Completed
	3589	12/19/2016	Overflowing manhole on Atlantic ave. This asset is the unmapped manhole	Jetted manhole 20956 to unmapped manhole, unmapped manhole was overflowing causing the SSO due to grease chunks in line thru out this area	Completed
	3601	12/21/2016	W/O 2of2 see manhole inspection form for 7 Eastern ave Back-up call Edward Atkinson 617 568 2867	Opened manhole street flowing freely spoke to homeowner told him we would get back to him after further investigation no tie card however homeowner showed me where line is from property to street see picture	Completed
23 - WW Pump Stations	1438	1/6/2016	Commfails for all pump stations	Preliminary contact by Kevin Stetson to verizon when loop went down. Eventually, after a few additional calls, it was found that Verizon's chkg of the loop in wrong way caused the outage.	Completed
	2697	7/18/2016	All station comfail alarm and lost phone service	Call Verizon for a new ticket # is 056226 came back from lunch all cleared other areas of the town lost phone service also	Completed
	2853	8/1/2016	Pump station a door won't open		Completed
	3028	9/15/2016	Pump station 5 sump pump in dry well is not pumping but is running, suspect that the pipe leading to the wet well is plugged.	After removal of the pump we found debris stuck in the piping we Jett the piping to the wet well and operating normal again. We also cleaned up the debris from the lower dry well floor.	Completed
	3274	10/31/2016	Emergency generator, battery post protection,	Installed the new post protection covers while doing station checks, today! Station 1 ,station 3 ,station 4 ,station 5 station 6 and station 9.	Completed
	3414	11/22/2016	Wetwell inspection of debris at all stations	Opened wetwells at stations 1,A,3,4,5,6,9 all stations had 0% debris in wetwells	Completed
Grinder Pump 10 WORRICK ROAD	1728	2/27/2016	Loose side conduit elbow - broken off	Visit on 2/ 26 at 430pm, assess and attempt to fix. Dig and reset conduit. Need additional items. Return on 2/27, repair cracked elbow with fiberglass resin, set elbow and re-anchor with new screws. Silicone around piece after mounting. Call and update homeowner.	Completed
Grinder Pump 110 NO. TRURO ST.	2688	7/14/2016	Customer couldn't here grinder coming on	12pm/1230pm arrived at location found grinder working properly. Homeowner concerned about a party he will be hosting and wanted to be sure there would be no problems	Completed
Grinder Pump 13 EASTMAN RD	2332	5/29/2016	Pump went into alarm	LOTO performed. Replaced old grinder pump (Serial #103845) with Repaired Grinder Pump (Serial #A177081)	Completed
Grinder Pump 14 Montana Ave	2467	6/19/2016	14 Montana Ave, Grinder pump Alarm circuit box cover broken.	Replaced circuit box by Aram Varjabedian	Completed
Grinder Pump 14 NANTASKET AVE	2293	5/17/2016	Grinder Pump went into Alarm	LOTO performed. Removed nonfunctional grinder pump (Serial #106831) and replaced with Repaired Grinder Pump (Serial #91315)	Completed
Grinder Pump 14 ROCKAWAY AVE.	3603	12/22/2016	Grinder in alarm Tina Delguidice 609 707 6616	Eric Joe arrived at location Loto performed opened grinder checked for operation alarm went off replaced grinder	Completed

	3604	12/22/2016	Pump in alarm	Eric Joe arrived at location opened grinder checked for operation alarm went on replaced grinder pump	Completed
Grinder Pump 15 EASTMAN RD	2123	4/27/2016	Grinder in alarm	Loto performed, grinder pump not working swapped out for new pump, old pump serial #106942 new pump serial #106843	Completed
	2126	4/27/2016	Grinder in alarm	Loto performed, grinder pump not working swapped out for new pump, old pump serial #106942 new pump serial #106843	Completed
Grinder Pump 16 QUANSET ST.	3415	11/25/2016	Grinder in alarm	Arrived at 1130 am departure at 1200pm Loto performed replaced grinder pump now operational	Completed
Grinder Pump 17 SHORE GARDENS RD.	3611	12/27/2016	Grinder Pump went into alarm.	LOTO Performed, Pumped out grinder pump pit with puddle pump & 100ft garden hose into tote. Replaced Grinder Pump Serial number 104824 with Repaired Grinder Pump Serial number 103831.	Completed
Grinder Pump 18 ROCKVIEW RD.	3025	9/14/2016	There are 2 grinders in this tank one pump changed for now need to go back and replace the other will do another W/O for 2nd pump	Changed out 1 pump	Completed
GRINDER	3059	9/27/2016	Grinder in alarm	2 pumps were found in this Can 1 was replaced last week today we investigated 2nd pump found it was not operational so we replaced pump 2 Loto was performed	Completed
Grinder Pump 19 HARWICH ST.	1468	1/12/2016	Grinder Pump in alarm,	Opened cover tank was full had to puddle pump out tank at the top of grinder the was 2" to 3" of 3/4" stone on top of grinder which we had to vacuum out before replaced grinder	Completed
Grinder Pump 19 RICHARDS	1589	2/24/2016	Pump went into alarm	Replaced grinder pump	Completed
	1590	2/10/2016	Pump went into alarm	Checked 2nd pump by the bypass button pump wasn't working so we replaced pump	Completed
Grinder Pump 20 ROCKVIEW RD.	3058	9/27/2016	Replaced grinder pump #2 do to low no pump flow	LOTO performed. Grinder pump replaced	Completed
Grinder Pump 200 NO. TRURO	1605	2/16/2016	Pump went into alarm	Pumped out grinder pit and replaced grinder, tested electrical not working	Completed
Grinder Pump 30 DELLAWANDA RD.	3222	10/13/2016	Experiencing backup	LOTO performed. Replaced old grinder pump with Repaired Grinder Pump	Completed
Grinder Pump 33 WYOLA ROAD	1943	3/21/2016	Grinder Pump went into Alarm	Replaced grinder pump	Completed
Grinder Pump 34 WYOLA ROAD	1441	1/7/2016	Grinder Pump went into Alarm	Responded to the grinder pump call Loto pump and controls, and Replaced the pump also had to remove extension, cable. And reconnect directly to the pump, pump out # was 91315 pump in # was 105822	Completed
Grinder Pump 36 SHORE GARDENS RD.	1627	2/17/2016	Grinder alarm	LOTO Performed, Drained grinder pump pit into tote. Replaced malfunctioning Grinder Pump with Repaired Grinder Pump.	Completed
Grinder Pump 37 ELM AVE	3252	10/23/2016	Grinder Pump went into alarm.	939 am - 1030 am Loto performed removed grinder pump replaced with new pump	Completed
Grinder Pump 42 WYOLA ROAD	3377	11/7/2016	Grinder Pump in alarm	Determined gravity piping to grinder pump does not come in from the side of grinder.	Completed
GRINDER	3608	12/27/2016	Inspect the possibility of a damaged pipe that exits the pump due to a contractor digging near pump for a footing installation for a new deck.	LOTO Performed. Grinder Pump Pit pumped put using puddle pump. Replaced Nonfunctional Grinder Pump (Serial #106831) with Repaired Grinder Pump (Serial #106782)	Completed
Grinder Pump 5 NANTASKET AVE	3223	10/13/2016	DPW Grinder Pump in Alarm	LOTO performed. Replaced connecting rod with new.	Completed
GRINDER	3224	10/13/2016	DPW Grinder Pump Pit connecting rod damaged.	Replaced motherboard, replaced plug, changed alarm light. Pump functioning normally	Completed
Grinder Pump 50 NANTASKET AVE	2700	7/20/2016	Grinder in alarm	Arrival 8am depart 1030am grinder full pumped out then reinstalled new pump	Completed
Grinder Pump 52 NANTASKET AVE	2427	6/1/2016	Resident claimed the pump is louder than usual when on	LOTO performed. Replaced Grinder pump (Serial #91316). Replaced with new Grinder pump (Serial #DH549069)	Completed
Grinder Pump 54 North Truro	1471	1/12/2016	Grinder Pump in alarm 54 North Truro	Grinder in alarm opened cover which was broken and did replace tank was full puddled pump out then replaced grinder. Also this house has a FRMAHONEY box which we own and replaced lock with one of ours	Completed
Grinder Pump 59 GOSNOLD ST.	2338	5/31/2016	Grinder Pump making unusual sounds. Upon arrival tested pump to find it was struggling to keep up with load.	LOTO performed. Replaced Grinder Pump Serial #106781. Replacement Grinder Pump Serial #DH352122	Completed
Grinder Pump 9 NANTASKET AVE	2462	6/17/2016	Grinder in alarm	2:30 pm 6/16/16 Loto performed replaced grinder serial # out 106759 serial # in 106831	Completed
Grinder Pumps	2466	6/19/2016	Pump went into alarm	LOTO performed. Replaced Grinder pump with Repaired pump Examined MH 20935, MH 20946, MH 20947. Flowing Freely at all examined manholes. Service confirmation paper put in residence mailbox.	Completed
Manholes	1893	3/3/2016	Service Call for 239 Atlantic Avenue. Sewage Backup in house. Caller Pam Bennett 781 925 0398	Opened manhole cover lowered salinity probe waited for measurement salinity was 8.1	Completed
MH 20000	1455	1/8/2016	Manhole Inspection	Opened manhole from paddocks island	Completed
MH 20001	2449	6/8/2016	Manhole Inspection	4/7/16 installed bacteria unit in manhole	Completed
MH 20019	2085	4/7/2016	Manhole Inspection	Installation of bacteria unit in manhole	Completed
MH 20033	3618	12/30/2016	Manhole Inspection	1pm check - Manhole is OK. Not part of affected area.	Completed
MH 20038	3619	12/30/2016	Manhole Inspection	Approx 230pm, found this manhole surcharged. Made a number of calls. Only Rosano-Davis available. Pump out manhole and found brick pieces.	Completed
	3624	12/31/2016	Inspect and remove brick pieces. Attempt to jet down.	Vac out brick pieces with W/river and attempt to jet down the street, but unable to, since liquid in drain in #26 garage started to rise.	Completed
MH 20050	3576	12/15/2016	Manhole Inspection	930am to 10:00 am Eric, Bill checked manholes 1 on Spring st MH 20050, and 1 on Main st MH 20045 both manholes flowing freely advised homeowner to call plumber	Completed
MH 20051	2076	4/3/2016	Manhole Inspection	Checked Manhole, Flowing Freely	Completed
	2077	4/3/2016	Backup call at 10 Western Ave. Bill Doyle	Checked Manhole 20051	Completed
	2078	4/4/2016	Backup call at 10 Western Ave. Bill Doyle 617 281 8042	Checked Manhole 20051. Flowing Freely	Completed
	2079	4/3/2016	Manhole Inspection	Checked Manhole, Flowing Freely	Completed
	3620	12/30/2016	Manhole Inspection	Inspect at approx 3pm - downstream of back up. Flowing ok. At bottom of hill by main street.	Completed
	3623	12/31/2016	Manhole at base of Western Ave	Jet line 6 to 7 times. Only able to get out approx 140 ft. Mark location on road.	Completed
MH 20056	1588	2/8/2016	Manhole Inspection	Manhole Flowing Properly	Completed
MH 20060	1587	2/8/2016	Manhole Inspection	Manhole Flowing Properly	Completed
MH 20061	1622	2/17/2016	Manhole Inspection	Manhole inspection only assistance from Kevin Stetson,	Completed
MH 20067	1624	2/17/2016	Manhole Inspection	Manhole inspection only assistance from Kevin Stetson flow normal,	Completed

ROSANO DAVIS

MH 20113	2088	4/7/2016	Manhole Inspection	Installation of bacteria unit # 4 in manhole 20113 flow goes to station 9	Completed
MH 20114	2083	4/6/2016	Manhole Inspection	Installation and priming of bacteria machine	Completed
	2087	4/7/2016	Manhole Inspection	Installation of bacteria unit # 3 in manhole	Completed
MH 20125	1913	3/4/2016	Manhole Inspection	To verify marking of sewer line leading to spinnaker isl. To manhole number 20125 for utility co.	Completed
	2279	5/13/2016	Manhole Inspection	Opened manhole took pictures with GO PRO downloaded in file	Completed
MH 20126	2278	5/13/2016	Manhole Inspection	Opened manhole took pictures with GO PRO downloaded in file	Completed
MH 20143	2277	5/13/2016	Manhole Inspection	Opened manhole took pictures with GO PRO downloaded in file	Completed
MH 20147	2276	5/13/2016	Manhole Inspection	Opened manhole took pictures with GO PRO downloaded in file	Completed
MH 20164	2132	4/30/2016	Inspect due to water main break	JBASler assist. Inspect manhole and possible laterals in area. Depth of main on Nantasket Ave at Standish was 8.5 ft. Whereas, water company digging at 4 ft level.	Completed
MH 20166	3558	12/9/2016	Manhole Inspection	Eric, Joe inspected manhole 20166 due to back up call this street has a common low flow but is flowing freely	Completed
MH 20169	1964	3/29/2016	Manhole Inspection	Razano Davis fixed	Completed
	1965	3/29/2016	Manhole Inspection	Opened manhole Rosano Davis cleaned manhole	Completed
MH 20178	2090	4/7/2016	Manhole Inspection	Installation of bacteria unit # 6 on Meridian Ave manhole 20178	Completed
MH 20188	3022	9/12/2016	Manhole Inspection	Arrived at 2:00 pm opened manhole inspected flow street flowing freely	Completed
	3240	10/18/2016	Documentation	Es BB arrived at location opened manhole installed wrappo ring, manhole not noisy now	Completed
MH 20210	3215	10/6/2016	Manhole Inspection	815am Es,Jc inspected manhole for information purposes for contractors line needs to be cleaned and jetted do to debris	Completed
MH 20227	2091	4/7/2016	Manhole Inspection	Installation of bacteria unit # 7 on O ST and Central Ave manhole 20227	Completed
MH 20289	3199	10/4/2016	Manhole Inspection	12:15pm ES,BB, arrived at location opened manhole direction of pipe. Talked to builder who's brother did the plumbing he said he would talk to his brother and have him supply a tie card	Completed
MH 20329	2092	4/7/2016	Manhole Inspection	Installation of bacteria unit # 8	Completed
MH 20343	2089	4/7/2016	Manhole Inspection	Installation of bacteria unit #5 manhole 20343 on Ost and Beach Ave	Completed
	2250	6/3/2016	Bacteria unit # 5 not priming		Completed
MH 20488	2094	4/7/2016	Manhole Inspection	Installation of bacteria unit # 10	Completed
	2102	4/11/2016	Loose Cover - Making sounds when driven over	Used Wrap-o-ring to secure manhole cover.	Completed
MH 20489	3021	9/12/2016	Manhole Inspection	Arrived at 2:00 pm opened manhole inspected flow street flowing freely	Completed
	3023	9/12/2016	Manhole Inspection	Arrived at 135pm opened manhole put wrappo ring around perimeter closed lid	Completed
MH 20539	2493	6/28/2016	Manhole Inspection	Opened manhole street flowing freely, Constant Flow plumber's on site they pulled a root ball from clean out in her house system now operational	Completed
MH 20548	2492	6/28/2016	Manhole Inspection	Back up call 168 Samoset ave opened manhole inspected flow street flowing freely	Completed
MH 20562	2230	5/3/2016	Manhole Inspection	Opened manhole inspected flow street flowing freely	Completed
	2234	5/3/2016	Summary of manhole inspection	MH 20562 flowing freely, MH 20591, found debris causing a full pipe. Heading upstream to MH 20604 observed a full channel slow flow, following to MH 20617 observed slow flow some debris	Completed
MH 20590	3402	11/18/2016	Manhole call	Arrived at location to a noisy manhole cover which was not the case it needs a tar patch cover is fine	Completed
MH 20591	2231	5/3/2016	Manhole Inspection	Opened manhole this is upstream from MH 20562 observed debris needs a pump truck or line jetting	Completed
MH 20604	2232	5/3/2016	Manhole Inspection	Opened manhole inspected flow slow flow do to downstream manhole 20591	Completed
MH 20617	2233	5/3/2016	Manhole Inspection	Opened manhole observed slow flow some debris at bottom of manhole	Completed
MH 20759	1679	2/18/2016	Manhole Inspection	Inspected, Several Missing bricks	Completed
MH 20762	1680	2/18/2016	Manhole Inspection	MH not found	Completed
MH 20764	1661	2/18/2016	Manhole Inspection	None	Completed
MH 20765	1660	2/18/2016	Manhole Inspection	None	Completed
MH 20766	1681	2/18/2016	Manhole Inspection	MH not found	Completed
MH 20772	1673	2/18/2016	Manhole Inspection	Inspected, needs cleaning	Completed
MH 20774	1672	2/18/2016	Manhole Inspection	Inspected, several loose bricks observed.	Completed
MH 20776	1663	2/18/2016	Manhole Inspection	None	Completed
MH 20777	1676	2/18/2016	Manhole Inspection	Inspection of MH	Completed
MH 20778	1686	2/18/2016	Manhole Inspection	Lifted cover for inspection	Completed
MH 20779	1662	2/18/2016	Manhole Inspection	None	Completed
MH 20781	1671	2/18/2016	Manhole Inspection	Not sanitary, Drainage manhole.	Completed
MH 20782	2472	6/20/2016	Manhole Inspection	Examined manhole, Flowing freely	Completed
MH 20788	2473	6/20/2016	Manhole Inspection	Inspected manhole, Flowing freely	Completed
MH 20791	1967	3/30/2016	Manhole Inspection	Opened manhole inspected flow street flowing freely. Talked to homeowner advised to call a plumber	Completed
MH 20795	1669	2/18/2016	Manhole Inspection	No action needed	Completed
MH 20796	1664	2/18/2016	Manhole Inspection	None	Completed
	1859	3/1/2016	Manhole Inspection	Flowing Freely	Completed
	2494	6/28/2016	Manhole Inspection	12:00 pm opened manhole inspected flow street flowing freely. Checked building took readings with Jerome advised trustees to get an inspection from the fire department, and call Alvin & Hollis to future investigate. Trustees very pleased with our information this has been going on for 2 years	Completed
MH 20800	1857	3/1/2016	Manhole Inspection	Flowing Freely	Completed
MH 20801	1665	2/18/2016	Manhole Inspection	Fix rim	Completed
	1858	3/1/2016	Manhole Inspection	Flowing Freely	Completed
	2495	6/28/2016	Manhole Inspection	Spoke to trustees advised to call fire department for a building inspection, and call Alvin and Hollis plumbers to investigate further this has been going on for 2 years trustees were very pleased with our information	Completed
MH 20803	1677	2/18/2016	Manhole Inspection	Inspected, need to investigate infiltration	Completed
	1678	2/18/2016	Manhole Inspection	Inspected, Several Missing bricks	Completed
	2096	4/7/2016	Manhole Inspection	Installation of bacteria unit # 11	Completed
	2274	5/13/2016	Manhole Inspection	Opened manhole took pictures with GO -PRO down loaded in file	Completed

20003	2902	8/30/2016	Night 2 set hose in manhole 20803 for discharge from station 3 and 4 by pump trucks pulling out of wetwell, for work being performed at manhole 20811 repair of pipe	Arrived at location set hose in manhole manhole 20803	Completed
	2904	8/30/2016	Night work at manhole 20811 repair of force main discharge	Set hoses up for discharge from station 3&4	Completed
MH 20809	1966	3/30/2016	Manhole Inspection	Opened manhole inspected flow street flowing freely. Talked to homeowner advised to call a plumber	Completed
MH 20810	1667	2/18/2016	Manhole Inspection	Surcharged	Completed
	1693	2/19/2016	Manhole Inspection	Opened MH cleaned debris from shelves	Completed
MH 20811	1501	1/27/2016	Manhole Inspection	Opened manhole used rosano Davis to pump out debris	Completed
	1666	2/18/2016	Manhole Inspection	inspected manhole	Completed
		2/19/2016	Manhole Inspection	corrected asset to MH 20811 from MH 20810	Completed
	1950	7/22/2016	Manhole Inspection	since evaluation Windriver has removed corroded pipe and cameraed 44 feet and found damaged pipe [last 15 ft]. Sometime in August 2016 the last 15 ft of discharge forcemain will be slipped lined by a vendor of choice. T&B working with town to procure.	Completed
	2104	4/13/2016	Manhole Inspection	Opened manhole confined space entry procedure performed. Pressure washed from street level first then lowered worker in manhole finished pipe work then pressure washed all sides	Completed
	2131	4/29/2016	Manhole Inspection	230pm called police for street detail for 5 minutes to install a data logger	Completed
	2275	5/13/2016	Manhole Inspection	Opened manhole took pictures with GO PRO downloaded in file	Completed
	2501	6/29/2016	Manhole Inspection	Opened manhole Windriver cut pipe in 3 sections and hoisted out and removed from site, jetted line, cameraed and videoed	Completed
	2903	8/30/2016	Contractors in for night work to repair 18ft of damaged force main discharge	Arrived at location, rick at station 3, John at station 4 stopped flow, began truck pumping out of wetwells and discharged in manhole 20803	Completed
MH 20812	1856	3/1/2016	Manhole Inspection	Flowing Freely	Completed
MH 20813	1502	1/27/2016	Manhole Inspection	Opened manhole saw no restrictions in the MAIN this manhole is fed by station 3,4 and hotel so 3 inlet pipes	Completed
	1668	2/18/2016	Manhole Inspection	Clran asap	Completed
MH 20815	1855	3/1/2016	Manhole Inspection	Flowing Freely	Completed
MH 20818	1670	2/18/2016	Manhole Inspection	Lifted cover inspection of MH	Completed
	1694	2/18/2016	Manhole Inspection	Cleaned debris from shelf	Completed
MH 20822	3192	10/1/2016	Manhole Inspection	Es,Rc opened manhole street flowing freely	Completed
	3602	12/21/2016	Manhole Inspection	Arrived at location opened manhole street flowing freely W/O 1 of 2 see sems fot more info	Completed
MH 20824	1674	2/18/2016	Manhole Inspection	Inspection of MH	Completed
	1699	2/19/2016	Manhole Inspection	Cleaned debris from manhole	Completed
MH 20825	3190	10/1/2016	Manhole Inspection	230pm ES,RC opened manhole 20825, line flowing freely which ends up at station 4	Completed
MH 20826	1691	2/19/2016	Manhole Inspection	Clean debris from MH	Completed
MH 20827	1685	2/18/2016	Manhole Inspection	None	Completed
	1689	2/19/2016	Manhole Inspection	After Jetting upstream went to MH 20830 and cleaned debris on shelf	Completed
MH 20828	1675	2/18/2016	Manhole Inspection	Inspection of MH	Completed
	1701	2/19/2016	Manhole Inspection	Opened manhole cleaned debris from shelves	Completed
MH 20829	1682	2/18/2016	Manhole Inspection	Jet debris	Completed
	1692	2/19/2016	Manhole Inspection	Inspection of manhole flowing freely	Completed
	1702	2/19/2016	Manhole Inspection	Opened manhole cleaned debris from shelves	Completed
MH 20830	1684	2/18/2016	Manhole Inspection	Jet line	Completed
	1690	2/19/2016	Manhole Inspection	Jetted line then cleaned debris now flowing freely	Completed
MH 20831	1683	2/18/2016	Manhole Inspection	Jet debris	Completed
	1703	2/19/2016	Manhole Inspection	Opened manhole cleaned debris from shelves	Completed
MH 20863	2333	5/29/2016	20 Wyola Road.	Checked Manhole 20863. Flowing freely. No grinder pump on property or that side of street for any house. Advised homeowner to call plumber.	Completed
	2335	5/29/2016	Manhole Inspection	Flowing Freely	Completed
MH 20880	3214	10/6/2016	Manhole Inspection	8am Es,Jc inspected manhole for information purposes for contractors line to be cleaned and jetted and 2 others upstream on same line	Completed
MH 20910	2715	7/26/2016	Manhole Inspection and Sulfide Inspection	Opened manhole inspected flow street flowing freely	Completed
MH 20935	1886	3/3/2016	Manhole Inspection	Flowing Properly. Dirt / Debris on Valley Beach Ave. lateral	Completed
MH 20943	1894	3/3/2016	Manhole Cover non-existent. Located on corner of Meade Ave and Atlantic Ave	Documentation	Completed
MH 20946	1885	3/3/2016	Manhole Inspection	Flowing Freely	Completed
MH 20947	1884	3/3/2016	Manhole Inspection	Flowing Freely	Completed
MH 20953	3590	12/19/2016	Manhole Inspection	See sems W/O for details, after pumping out overflowing manhole Rosano Davis jetted from unmapped manhole north to manhole 20953	Completed
MH 20956	3591	12/19/2016	Manhole Inspection	9am to 130pm jetted 5 manholes in this area see sems W/O for details	Completed
MH 20957	3592	12/19/2016	Manhole Inspection	Eric Jody Rosano Davis on site jetted and cleaned manhole 20957 from 20958 line now flowing freely see sems W/O for details W/O 5 of 6	Completed
MH 20958	3593	12/19/2016	Manhole Inspection	Manhole 20958 was the final cleaning of lines cleaned minor debris but kept going down stream until satisfied line flowing freely	Completed
MH 20959	1433	1/5/2016	Manhole Inspection	Opened manhole for flow system flowing freely	Completed
MH 20960	1609	2/16/2016	Manhole Inspection	No issues	Completed
	1610	2/16/2016	Manhole Inspection	Clean sand & gravel, salinity 9.5	Completed
MH 20961	1866	2/29/2016	Manhole Inspection	Jetted manhole cleaned debris camera line	Completed
MH 20962	1697	3/7/2016	Manhole Inspection	eric and windriver jetted cleaned debris of this area	Completed
				eric and windriver jetted manholes cleaned debris of this area	Completed
	1867	3/1/2016	Manhole Inspection	Jetted manhole cleaned debris camera line	Completed
	1909	3/3/2016	Manhole Inspection	Jetted manhole cleaned debris of sand and stones now line flowing freely	Completed
MH 20963	1908	3/3/2016	Manhole Inspection	Jetted manhole 20963 to 20965 cleaned debris of sand and stones now line flowing freely	Completed
MH 20964	1865	2/29/2016	Manhole Inspection	Jetted manhole cleaned and camera line	Completed
MH 20965	1614	2/1/2016	Inspection of manhole only, whole area of Atlantic ave near station 1 needs cleaning		Completed
	1616	2/16/2016	Manhole Inspection	Jet hole area of sewer	Completed

	1617	2/16/2016	Manhole Inspection	None	Completed
	1869	3/1/2016	Manhole Inspection	At this manhole 20965 to 20967 we had to work both ends to clear the line	Completed
	1907	3/3/2016	Manhole Inspection	Jettied manhole camera line now flowing freely	Completed
MH 20966	1606	2/1/2016	Manhole inspection - debris in the channel needs to be jettied,		Completed
	1608	2/16/2016	Manhole Inspection	Debris in channel	Completed
	1864	3/1/2016	Manhole Inspection	Jettied manhole cleaned and camera line	Completed
MH 20967	1607	2/1/2016	Manhole has to be cleaned from dirt and debris flow not normal		Completed
	1611	2/16/2016	Manhole Inspection	Clean sand & gravel, salinity 9.5	Completed
	1868	3/1/2016	Manhole Inspection	At MH 20967 and 20965 the line was heavily clogged and had to work both manholes to free debris	Completed
	1870	2/29/2016	Manhole Inspection	Jettied manhole cleaned heavy debris of sand and stones partial camera of line	Completed
MH 20968	1603	6/2/2016	Manhole Inspection		Completed
	1619	2/1/2016	Manhole has been moved by the storm February 8th and is missing a hunk of riser and rim of cover		Completed
	1626	2/21/2016	Manhole Inspection		Completed
	1696	2/19/2016	Manhole Inspection	Clean manhole of dirt sand and stones	Completed
	1713	2/23/2016	Manhole Inspection	Saw Hub Construction repairing manhole took documentation pictures	Completed
	1860	3/1/2016	Manhole Inspection	Paved manhole	Completed
	1862	3/1/2016	Manhole Inspection	Jettied manhole cleaned + camera line ,now flowing freely	Completed
MH 20969	1602	2/1/2016	Manhole has been moved by ocean water, and has misaligned riser to the well pit,		Completed
	1604	2/21/2016	Manhole Inspection		Completed
	1695	2/19/2016	Manhole Inspection	Removed cover cleaned debris	Completed
	1861	2/29/2016	Manhole Inspection	Paved manhole	Completed
	1863	2/1/2016	Manhole Inspection	Jettied manhole 20969 to 20966	Completed
MH 20971	1612	2/16/2016	Manhole Inspection	Backed up abit..	Completed
MH 20972	1613	2/1/2016	Manhole inspection of Atlantic ave. Near station 1 shows that dirt and debris clogging the channel flow lower than normal		Completed
	1615	2/16/2016	Manhole Inspection	None	Completed
MH 20977	2082	4/6/2016	Manhole Inspection	4/5/16 arrival 130pm departure 530pm manhole was flowing freely, possible clog was a line that sweeps upstream from this manhole. After jetting added dye see picture, advised homeowner to call plumber, then call to let us how he made out	Completed
ODOR	2117	4/21/2016	Odor Complaint. Says sewer smell coming from manhole	Pulled Manhole cover. No smell detected by nose or H2S meter. Put wrap-o-ring to secure cover. Manhole Flowing freely	Completed
MH 20978	2093	4/7/2016	Manhole Inspection	Installation of bacteria unit # 9 in manhole 20978	Completed
MH 20982	3269	10/28/2016	Manhole Inspection	With JB, flows toward MH20985	Completed
MH 20985	3270	10/28/2016	Manhole Inspection	With JB,inspect	Completed
Portable Electric Pump 6A	1458	1/9/2016	Need piping & fittings for in-line post use drain		Completed
PS #1 GridBee Aerator	2637	6/29/2016	Install GridBee Aerator		Completed
PS 1	1185	1/13/2016	PS #1 Inspection - Monthly		Completed
	1362	2/1/2016	PS #1 Inspection - Monthly		Completed
	1537	3/21/2016	PS #1 Inspection - Monthly		Completed
	1780	4/14/2016	PS #1 Inspection - Monthly		Completed
	2006	5/4/2016	PS #1 Inspection - Monthly		Completed
	2163	6/1/2016	PS #1 Inspection - Monthly		Completed
	2368	7/1/2016	PS #1 Inspection - Monthly		Completed
	2542	8/4/2016	PS #1 Inspection - Monthly		Completed
	2758	9/1/2016	PS #1 Inspection - Monthly		Completed
	2848	8/14/2016	Power failure	Contacted Hull light and monitored station	Completed
	2932	10/1/2016	PS #1 Inspection - Monthly		Completed
	3101	11/7/2016	PS #1 Inspection - Monthly		Completed
	3212	10/1/2016	Inspection of lower level during station checks noticed a 1" of water on floor		Completed
PS 1 Building	3304	12/29/2016	PS #1 Inspection - Monthly	Wetwell Inspected. Debris level estimated at 7%	Completed
	1047	10/24/2016	Vinyl Siding falling off	Mike K. replaced vinyl siding	Completed
	1938	3/16/2016	Safety audit action item	Installed safety chains and fixed hand rails..	Completed
	2220	5/3/2016	Floor Grating	completed task from safety audit item #6	Completed
PS 1 By-Pass System	3546	12/6/2016	Brought trash pump to station due to weather and pump # 1 was removed for repair for the night	Eric + John brought trash pump to station for bypass in case of any issues while pump 1 was at shop for repairs	Completed
PS 1 Generator	1192	1/5/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	1193	1/13/2016	PS #1 Generator Inspection and Test - Weekly	Power loss. Generator ran for 4 hours on 1/10/16	Completed
	1194	1/19/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	1195	1/26/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	1196	1/5/2016	PS #1 Generator Inspection and Load Test - Monthly	Load test today, engine rpm speeding up and down to much, suspect that the governor is not functioning correctly, made the transfer switch disconnect to line power , needs to be looked at!	Completed
	1369	2/1/2016	PS #1 Generator Inspection and Load Test - Monthly		Completed
	1370	2/2/2016	PS #1 Generator Inspection and Test - Weekly	Generator Run No Load	Completed
	1371	2/12/2016	PS #1 Generator Inspection and Test - Weekly	Ran generator load test complete!	Completed
	1372	2/17/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	1373	2/21/2016	PS #1 Generator Inspection and Test - Weekly	No load	Completed
	1445	1/6/2016	Maintenance for rough running of engine for the emergency generator also rpm. Of engine not steady	Changed spark plugs and adjusted engine rpm to handle power needed at startup of pumps, by highland power!	Completed
	1544	3/1/2016	PS #1 Generator Inspection and Load Test - Monthly		Completed
	1546	3/1/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	1547	3/17/2016	PS #1 Generator Inspection and Test - Weekly	Generator No-Load Test. Hertz - 60. AC Volts - 450. AC Amperes - 0. Oil Press - 75. Water Temp - 180. Battery - 15.	Completed
	1548	3/22/2016	PS #1 Generator Inspection and Test - Weekly	Ran generator no load today!	Completed
	1787	3/29/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	1790	4/20/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	1791	5/12/2016	PS #1 Generator Inspection and Test - Weekly	weekly generator run	Completed
	1792	4/12/2016	PS #1 Generator Inspection and Load Test - Monthly		Completed
	2013	5/4/2016	PS #1 Generator Inspection and Load Test - Monthly		Completed
	2015	5/10/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	2016	5/24/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	2017	5/1/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	2170	6/3/2016	PS #1 Generator Inspection and Load Test - Monthly		Completed

PS 1 generator

	2171	6/1/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	2172	6/1/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	2173	6/1/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	2174	6/21/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	2175	7/1/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	2242	7/22/2016	When killing power to station generator ran for 5 seconds then failed to keep running	after talking to Rick Clark he said problem could have bin a air pocket in line since the original failure generator has been operational	Completed
	2375	7/8/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	2376	7/14/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	2377	7/1/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	2378	7/31/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	2379	7/8/2016	PS #1 Generator Inspection and Load Test - Monthly		Completed
	2549	8/7/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	2550	8/16/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	2551	8/16/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	2552	8/25/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	2553	8/29/2016	PS #1 Generator Inspection and Test - Weekly	Ran generator no load today!	Completed
	2554	8/1/2016	PS #1 Generator Inspection and Load Test - Monthly		Completed
	2765	9/12/2016	PS #1 Generator Inspection and Load Test - Monthly	Ran generator load test complete!	Completed
	2766	9/6/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	2767	9/1/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	2768	9/20/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	2769	9/1/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	2939	10/11/2016	PS #1 Generator Inspection and Load Test - Monthly	Load test complete!	Completed
	2940	10/3/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	2941	10/1/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	2942	10/1/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	2943	10/30/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	3108	11/1/2016	PS #1 Generator Inspection and Load Test - Monthly		Completed
	3109	11/6/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	3110	11/1/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	3111	11/1/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	3112	11/1/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	3113	11/28/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	3227	10/13/2016	Replacement of the battery for the emergency generator required,	Replaced with a new battery the old outdated one .operating normal again.	Completed
	3311	12/1/2016	PS #1 Generator Inspection and Load Test - Monthly	Work Completed.	Completed
	3312	12/5/2016	PS #1 Generator Inspection and Test - Weekly		Completed
	3313	12/20/2016	PS #1 Generator Inspection and Test - Weekly	Ran generator load test today!	Completed
	3314	12/1/2016	PS #1 Generator Inspection and Test - Weekly	Work Completed.	Completed
	3315	12/29/2016	PS #1 Generator Inspection and Test - Weekly		Completed
PS 1 GridBee Compressor	2641	7/1/2016	PS 1 aerator compressor dedicated circuit		Completed
PS 1 Piping and Valves	2795	9/7/2016	Exercise valves		Completed
PS 1 Pump 1	1374	2/29/2016	PS #1 Pump 1 PM - Quarterly		Completed
	1477	1/14/2016	Safety guard on pump 1	Wrapped pump with mesh safety guard on pump 1	Completed
	1594	2/11/2016	Loud noise coming from the top of pump, top bearing retaining housing, had all bolts missing , also shim stock missing , due to bolts that backed out.	Loto pump 1 and replace the parts needed to repair the damage to top bearing housing of the pump. Also shim stock missing, replaced with new parts we had in inventory!	Completed
	1595	2/11/2016	Flow of the pump lower than normal, suspect that the pump is ragged up,	Found seaweed and sticks in impeller removed and flow of the pump is back to normal!	Completed
	2018	5/26/2016	PS #1 Pump 1 PM - Quarterly		Completed
	2555	8/11/2016	PS #1 Pump 1 PM - Quarterly		Completed
	3114	11/7/2016	PS #1 Pump 1 PM - Quarterly		Completed
	3548	12/7/2016	Replaced pump assembly due to existing pump was loud and needs repair Over a 2 day period of 10hrs job was complete	Loto procedure performed, pulled motor set aside, pulled pump, brought back to shop used existing impeller, put on new assembly reinstalled pump and motor, now operational	Completed
PS 1 Pump 2	1375	2/29/2016	PS #1 Pump 2 PM - Quarterly		Completed
	1478	1/14/2016	Wrapped pump with mesh safety guard on pump 2	Wrapped pump with mesh safety guard on pump 2	Completed
	1591	2/10/2016	No flow from pump 2 suspect that rags and debris caught in impeller,	Loto pump 2 and remove the rags and debris from impeller replaced inspection plate and bleed the pump, flow is back to normal!	Completed
	2019	5/26/2016	PS #1 Pump 2 PM - Quarterly		Completed
	2556	8/11/2016	PS #1 Pump 2 PM - Quarterly		Completed
	3115	11/7/2016	PS #1 Pump 2 PM - Quarterly		Completed
PS 1 Wet Well	1447	1/8/2016	Wetwell inspection	Opened manhole cover inspection of debris	Completed
	1487	1/21/2016	Wetwell inspection	Lowered vacuum pipe removed debris from wetwell	Completed
	1734	2/29/2016	Wetwell inspection	Quarter of wetwell covered with debris	Completed
	1895	3/1/2016	Dry well / wet well penetration		Completed
	1905	3/3/2016	Clean debris from wetwell with windriver	Vactored wetwell with windriver	Completed
	1954	3/29/2016	Wetwell inspection	Wetwell Inspected, 1/4 filled with debris/rags.	Completed
	2129	4/28/2016	Turned off station 1 for project at station 3 discharge force main	Turned station off then proceeded to station A, and 3 to do the same then bounced back and forth between stations to observe any mishaps	Completed
	2236	7/22/2016	Inspection of wetwell for debris - PS1	windriver in to clean wetwell	Completed
	2238	7/22/2016	Inspection of wetwell for debris	windriver in to clean wetwell	Completed
	2241	5/4/2016	Inspection of wetwell for debris	Inspection of wetwell for debris	Completed
	2286	5/16/2016	Inspection 50% debris record condition	50% surface with debris	Completed
	2440	7/22/2016	Inspection of wetwell	inspection of wetwell no debris found	Completed
	2500	6/29/2016	Cleaning of debris from wetwell	Windriver in to vactor debris from wetwell, no picture wetwell clean	Completed
	2680	7/14/2016	Wetwell inspection	Examined wetwell. Light to no debris present in wetwell.	Completed
	3200	10/5/2016	Wetwell inspection	Inspected Wetwell. Minimal Debris.	Completed
PS 3	1186	1/14/2016	PS #3 Inspection - Monthly	Greased motor and pump also checked dry well float, and emergency float	Completed
	1363	2/1/2016	PS #3 Inspection - Monthly		Completed
	1538	3/21/2016	PS #3 Inspection - Monthly		Completed
	1781	4/14/2016	PS #3 Inspection - Monthly		Completed
	1929	7/22/2016	14" forcemain discharge gate valve		Completed
	1940	3/18/2016	PS 3 SSO GPS and catch basins survey	Used GXBlue to grab latitude, and longitude of the SSO on 3/15 /16 along with pictures of site at station 3	Completed
	2007	5/1/2016	PS #3 Inspection - Monthly		Completed
	2098	4/8/2016	Install Wet Well Aerator		Completed
				Install completed	Completed
	2164	6/3/2016	PS #3 Inspection - Monthly		Completed

	2369	7/1/2016	PS #3 Inspection - Monthly		Completed
	2543	8/8/2016	PS #3 Inspection - Monthly		Completed
	2759	9/1/2016	PS #3 Inspection - Monthly		Completed
	2859	8/17/2016	Pump out debris island from wet well by wind river, also remove the diffuser to clean it, and install a lifting rope to aid in removal of diffuser.	We have cleared the rags and debris from the wet well by wind river pumping ,also clean up the diffuser from the rags attached to it	Completed
	2860	8/18/2016	Pump out debris island from wet well by wind river, also remove the diffuser to clean it, and install a lifting rope to aid in removal of diffuser.	We have cleared the rags and debris from the wet well by wind river pumping ,also clean up the diffuser from the rags attached to it	Completed
	2933	11/23/2016	PS #3 Inspection - Monthly	Assisted by Eric Sutton, check out the dry well condition grease the pump and motor check sump pump operations, all good now sump pump needed to have a new check valve installed, with parts we have in inventory.	Completed
	3102	11/4/2016	PS #3 Inspection - Monthly		Completed
	3213	10/6/2016	Swapped out 4" pump to a 6" pump do to pump 2 out of service	ES,JC swapped 4" pump to a 6" pump do to pump 2 out of service	Completed
	3305	12/29/2016	PS #3 Inspection - Monthly	Wetwell Inspected. Debris level estimated at 50%	Completed
PS 3 Aerator	2115	4/20/2016	Inspection of wetwell aerator debris and grease	Open manhole inspect for debris and grease take picture and document on DO forms	Completed
	2128	4/28/2016	Aerator was over heating do to letting wetwell being raised for discharge project	Turned off aerator until station back to normal	Completed
PS 3 Building	2626	7/1/2016	Inspection of earator	Opened manhole inspected earator for operational status running well	Completed
	1930	3/15/2016	Clean up at station 3 do to a sewage spill	Added lime fir clean up	Completed
	2221	5/3/2016	Fall protection safety audit #17	Task completed safety audit item #17	Completed
PS 3 By-Pass System (Old)	1440	1/7/2016	Location of mystery drain back valve	Evaluate, investigate and metal detect for bypass valves also located mystery drain valve	Completed
PS 3 Generator	1197	1/5/2016	PS #3 Generator Inspection and Load Test - Monthly	Ran generator load test complete!	Completed
	1198	1/5/2016	PS #3 Generator Inspection and Test - Weekly	Ran generator load test complete	Completed
	1199	1/14/2016	PS #3 Generator Inspection and Test - Weekly	Power loss on 1/10/16, emergency generator ran for 4 hours under load, ran generator no load today!	Completed
	1200	1/19/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	1201	1/26/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	1376	2/2/2016	PS #3 Generator Inspection and Test - Weekly	No load	Completed
	1377	2/12/2016	PS #3 Generator Inspection and Test - Weekly	Ran generator load test complete!	Completed
	1378	2/1/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	1379	2/21/2016	PS #3 Generator Inspection and Test - Weekly	No load	Completed
	1380	2/1/2016	PS #3 Generator Inspection and Load Test - Monthly		Completed
	1495	1/26/2016	Intake louver assembly for the emergency generator not operating,	Had the parts at the plant, to replace the missing parts of the louver assembly . replaced parts and tested ,operating normal Again. .	Completed
	1550	3/1/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	1551	3/16/2016	PS #3 Generator Inspection and Test - Weekly	Ran generator no load today!	Completed
	1552	3/22/2016	PS #3 Generator Inspection and Test - Weekly	Ran generator no load today!	Completed
	1553	3/1/2016	PS #3 Generator Inspection and Load Test - Monthly		Completed
	1793	4/12/2016	PS #3 Generator Inspection and Load Test - Monthly	Load test	Completed
	1794	3/29/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	1797	4/20/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	1798	5/12/2016	PS #3 Generator Inspection and Test - Weekly	weekly generator run	Completed
	2021	5/10/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	2022	5/24/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	2023	5/1/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	2024	5/4/2016	PS #3 Generator Inspection and Load Test - Monthly		Completed
	2176	6/1/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	2177	6/1/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	2178	6/1/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	2179	6/21/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	2180	7/1/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	2181	6/3/2016	PS #3 Generator Inspection and Load Test - Monthly		Completed
	2380	7/8/2016	PS #3 Generator Inspection and Load Test - Monthly		Completed
	2381	7/8/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	2382	7/14/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	2383	7/1/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	2384	7/31/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	2557	8/1/2016	PS #3 Generator Inspection and Load Test - Monthly		Completed
	2558	8/7/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	2559	8/16/2016	PS #3 Generator Inspection and Test - Weekly	Ran generator load test complete!	Completed
	2560	8/16/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	2561	8/25/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	2562	8/29/2016	PS #3 Generator Inspection and Test - Weekly	Ran generator no load today!	Completed
	2770	9/6/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	2771	9/1/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	2772	9/20/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	2773	9/1/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	2774	9/12/2016	PS #3 Generator Inspection and Load Test - Monthly	Ran generator load test complete!	Completed
	2944	10/3/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	2945	10/1/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	2946	10/1/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	2947	10/30/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	2948	10/11/2016	PS #3 Generator Inspection and Load Test - Monthly	Fan belt on generator needs to be checked and tighten,	Completed
	3116	11/6/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	3117	11/1/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	3118	11/1/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	3119	11/1/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	3120	11/28/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	3121	11/1/2016	PS #3 Generator Inspection and Load Test - Monthly		Completed
	3225	10/13/2016	Charging system is not charging suspect that the belt is loose, battery is discharging when running.	Access the belts by removing shroud and tighten 2 belts. Charge system is charging again!	Completed
	3228	10/13/2016	Outdated battery for the emergency generator needs to be replaced,	Replaced battery on the generator also the charging system is not charging, loose fan belt need to be tightened, operating normal again.	Completed
	3316	12/5/2016	PS #3 Generator Inspection and Test - Weekly		Completed
	3317	12/20/2016	PS #3 Generator Inspection and Test - Weekly	Ran generator load test today!	Completed
	3318	12/1/2016	PS #3 Generator Inspection and Test - Weekly	Work Completed.	Completed
	3319	12/29/2016	PS #3 Generator Inspection and Test - Weekly		Completed

PS 3 gen	3320	12/1/2016	PS #3 Generator Inspection and Load Test - Monthly	Work Completed.	Completed
	796	3/6/2016	PS #3 Generator Inspection and Load Test - Monthly	Generator RAN LOAD-TEST. AC VOLTS - 0 HERTZ - 61 AC AMPERES - 0 VOLTS - 15 COOLANT - 130 OIL PRESS - 75	Completed
PS 3 Piping and Valves	2796	9/7/2016	Exercise valves		Completed
PS 3 Pump 1	1381	2/29/2016	PS #3 Pump 1 PM - Quarterly		Completed
	2025	5/26/2016	PS #3 Pump 1 PM - Quarterly		Completed
	2563	8/11/2016	PS #3 Pump 1 PM - Quarterly		Completed
	3122	11/4/2016	PS #3 Pump 1 PM - Quarterly		Completed
PS 3 Pump 2	1382	2/29/2016	PS #3 Pump 2 PM - Quarterly	Grease the pump and motor pumps 1 and 2	Completed
	2026	5/26/2016	PS #3 Pump 2 PM - Quarterly		Completed
	2564	8/11/2016	PS #3 Pump 2 PM - Quarterly		Completed
	2847	8/11/2016	Pulled out pump 2 motor to be inspected	Using 3 chain falls and the crane truck hoisted motor up and out and brought back to plant for further investigation	Completed
	3057	9/26/2016	Pump 2 Assembly in need of repair/replacement	Reassembled the wheel valve. Operating normally	Completed
	3060	9/28/2016	Pulled pump 2 do to leaking seal also inspect inside volute and wear ring	ES,RC,BB pulled pump 2 inspected volute, made temporary volute cover out of 2 pieces of 3/4 plywood @ 26" in diameter also sprayed down station and cleaned loaded pump on truck brought back to plant	Completed
	3061	9/29/2016	Pulled pump 2 do to leaking seal also inspect inside volute and wear ring	ES,RC,BB pulled pump 2 inspected volute, made temporary volute cover out of 2 pieces of 3/4 plywood @ 26" in diameter also sprayed down station and cleaned loaded pump on truck brought back to plant	Completed
	3064	9/29/2016	Pulled pump 2 do to leaking seal also inspect inside volute and wear ring	ES,RC,BB pulled pump 2 inspected volute, made temporary volute cover out of 2 pieces of 3/4 plywood @ 26" in diameter also sprayed down station and cleaned loaded pump on truck brought back to plant	Completed
	3123	11/4/2016	PS #3 Pump 2 PM - Quarterly		Completed
	3395	11/16/2016	Put rubber gasket on volute do to leaking	Pressure washed station 3 removed volute cover put gasket maker and rubber gasket on volute installed wooden cover tightened bolts then a final wash of station	Completed
	3550	12/8/2016	Install of new split seal on repaired rotating assembly	Chesterton rep onsite at plant to install the split seal before the rotating assembly goes back into station 3. Greg the rep also trained Rick Jody Bill & Aram on how the seal gets installed and some operation startup tips	Completed
	3565	12/13/2016	Pump Station Cleanout	Filled tote with 2 gal hypochlorite and rest potable water. Attached booster pump and hose and sprayed down pump level at ps3	Completed
	3568	12/14/2016	Reinstalled pump and motor after being repaired	Unloaded crane truck using crane, using chain fall to lower pump, and motor installing both	Completed
	3570	12/14/2016	Eric Jodi Rick at station 3 to reinstall pump 2 motor and pump	Eric,Jodi,Rick unloaded truck lowered pump and motor for pump 2 and reinstalled	Completed
	3574	12/15/2016	Andy McKenzie installing repaired VFD and connecting electrical whip to newly repaired motor	Arrived at station 3 assisted andy on tasks for electrical, see second W/O for this project for start up of pump 2	Completed
	3580	12/15/2016	Part 2 of 3 W/O station 3 of start up of pump 2, Reference W/O # 1- 3574	After getting power to pump 2 we opened the discharge and suction sides of pump. Pump still vibrates past 40 hz Aram present he has determined to further investigate issue by pulling pump and see if debris in line sounds like its cavitating	Completed
PS 3 Sump Pump	3406	11/22/2016	Sump pump check valve failure	Es Rc replaced failed sump pump now operational	Completed
PS 3 Wet Well	1450	1/8/2016	Check wetwell for debris	Opened manhole for inspection of debris	Completed
	1736	2/29/2016	Wetwell Inspections	Low amount of debris	Completed
	1896	3/1/2016	Wet well / drywell penetrations		Completed
	1959	3/29/2016	Inspection of wetwell for debris	Inspection of wetwell for debris to clean No cleaning required	Completed
	2109	4/14/2016	Inspection of wetwell for debris and check aerator operating system	Opened manhole inspected for debris and aerator for operation	Completed
	2124	4/27/2016	Trial run on shutting of pumps a station 1, A, and 3 to see how long we can work on station 3 discharge force main at water st and nantasket ave	Turned of stations, stayed at station 3 had communications at plant to watch other stations on scada when station A went in alarm went check on wetwell we have a 2 hr window on this project before pumps at station should be turned back on	Completed
	2288	5/16/2016	Inspection	Non needed	Completed
	2442	6/8/2016	Inspection of wetwell for debris	Opened wetwell for inspection of debris 0% debris	Completed
	2683	7/14/2016	Wetwell inspection	Wetwell inspected. About 40% surface solids	Completed
	3202	10/5/2016	Wetwell Inspected	Wetwell Inspected. Little to no debris present.	Completed
	3204	10/5/2016	Wetwell Inspected	Wetwell Inspected. Little to no debris present	Completed
PS 4	1187	1/13/2016	PS #4 Inspection - Monthly		Completed
	1364	2/1/2016	PS #4 Inspection - Monthly		Completed
	1496	1/26/2016	Protective mesh for pump 1 and 2	Installed on both pumps safety mesh to prevent accidentally coming in contact with rotating parts,	Completed
	1539	3/21/2016	PS #4 Inspection - Monthly		Completed
	1782	4/14/2016	PS #4 Inspection - Monthly		Completed
	2008	5/4/2016	PS #4 Inspection - Monthly		Completed
	2165	6/1/2016	PS #4 Inspection - Monthly		Completed
	2370	7/1/2016	PS #4 Inspection - Monthly		Completed
	2544	8/8/2016	PS #4 Inspection - Monthly		Completed
	2760	9/1/2016	PS #4 Inspection - Monthly		Completed
	2934	11/23/2016	PS #4 Inspection - Monthly	Assisted by Eric Sutton we checked out the dry well and grease the pump and motor check sump pump operations. All good at this time	Completed
	3103	11/4/2016	PS #4 Inspection - Monthly		Completed
	3306	12/29/2016	PS #4 Inspection - Monthly	Wetwell Inspected. Debris level estimated at 3%	Completed
	3400	11/17/2016	Pumps 1 & 2 Electrical Replacing	Glenn from FES Electrical Systems on site. Replaced junction box and wiring inside for Pumps 1 and 2 using seal tight PVC for piping containing wires. Piped in outlet for sump pump. Installed new high level float for drywell. Installed new light fixture for lower level.	Completed
PS 4 Building	1934	3/17/2016	HS AUDIT ITEM 24 2ND LEVEL GUARD RAIL Installed chains close WO	Looks good	Completed
	2444	7/22/2016	Graffiti on back of building	RICK CLARK PAINTED BACK OF STATION	Completed
PS 4 Generator	1202	1/5/2016	PS #4 Generator Inspection and Test - Weekly	Ran generator load test complete	Completed
	1203	1/13/2016	PS #4 Generator Inspection and Test - Weekly	Power loss on 1/10/136 the emergency generator ran for aprox.4 hours under load,	Completed
	1204	1/19/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	1205	1/26/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	1206	1/5/2016	PS #4 Generator Inspection and Load Test - Monthly	Ran generator load test complete cycle pump 2 for amperage draw on emergency power	Completed

PS4 Gen.

	1383	2/1/2016	PS #4 Generator Inspection and Load Test - Monthly		Completed
	1384	2/2/2016	PS #4 Generator Inspection and Test - Weekly	No load	Completed
	1385	2/12/2016	PS #4 Generator Inspection and Test - Weekly	Ran generator load test complete!	Completed
	1386	2/17/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	1387	2/21/2016	PS #4 Generator Inspection and Test - Weekly	No load	Completed
	1446	1/6/2016	Performance of the engine on emergency generator for station 4 is not sufficient for the starting of pumps suspect that the governor needs adjusting and a spark plug change will fix the issue,	During load testing of emergency generator engine performance not good highland power co. Came and changed plugs and adjusted rpm of engine, fouled spark plugs to be the cause also could use a set of sparkplug wires! We were told we can do that at a later date.	Completed
	1554	3/6/2016	PS #4 Generator Inspection and Load Test - Monthly	Generator LOAD-TEST performed, HERTZ - 60, AC VOLTS - 400, AC AMPERES - 0, OIL PRESS - 75, WATER TEMP - 180, BATTERY - 14,	Completed
	1556	3/1/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	1557	3/16/2016	PS #4 Generator Inspection and Test - Weekly	Ran generator no load today!	Completed
	1558	3/1/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	1799	3/29/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	1802	4/20/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	1803	5/12/2016	PS #4 Generator Inspection and Test - Weekly	weekly generator run	Completed
	1804	4/12/2016	PS #4 Generator Inspection and Load Test - Monthly	Load test	Completed
	2027	5/4/2016	PS #4 Generator Inspection and Load Test - Monthly		Completed
	2029	5/10/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	2030	5/24/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	2031	5/1/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	2182	6/3/2016	PS #4 Generator Inspection and Load Test - Monthly		Completed
	2183	6/1/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	2184	6/1/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	2185	6/1/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	2186	6/21/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	2187	7/1/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	2385	7/8/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	2386	7/14/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	2387	7/1/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	2388	7/31/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	2389	7/8/2016	PS #4 Generator Inspection and Load Test - Monthly		Completed
	2565	8/7/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	2566	8/16/2016	PS #4 Generator Inspection and Test - Weekly	Ran generator load test complete!	Completed
	2567	8/16/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	2568	8/25/2016	PS #4 Generator Inspection and Test - Weekly	Ran generator no load today!	Completed
	2569	8/29/2016	PS #4 Generator Inspection and Test - Weekly	Ran generator no load today!	Completed
	2570	8/1/2016	PS #4 Generator Inspection and Load Test - Monthly		Completed
	2775	9/12/2016	PS #4 Generator Inspection and Load Test - Monthly	Ran generator load test complete!	Completed
	2776	9/6/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	2777	9/1/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	2778	9/20/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	2779	9/1/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	2949	10/11/2016	PS #4 Generator Inspection and Load Test - Monthly	Load test complete!	Completed
	2950	10/3/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	2951	10/1/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	2952	10/1/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	2953	10/30/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	3124	11/1/2016	PS #4 Generator Inspection and Load Test - Monthly		Completed
	3125	11/6/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	3126	11/1/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	3127	11/1/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	3128	11/1/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	3129	11/28/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	3229	10/13/2016	Battery for the emergency generator needs to be replaced, outdated 2007 vintage!	Remove the old battery and replace, with new replacement!	Completed
	3321	12/1/2016	PS #4 Generator Inspection and Load Test - Monthly	Work Completed.	Completed
	3322	12/5/2016	PS #4 Generator Inspection and Test - Weekly		Completed
	3323	12/20/2016	PS #4 Generator Inspection and Test - Weekly	Ran generator load test today!	Completed
	3324	12/1/2016	PS #4 Generator Inspection and Test - Weekly	Work Completed.	Completed
	3325	12/29/2016	PS #4 Generator Inspection and Test - Weekly		Completed
PS 4 GridBee Aerator	2638	7/7/2016	Install GridBee Aerator		Completed
	2648	7/1/2016	Install aerator in wet well		Completed
	3389	11/12/2016	Wire in to breaker panel and on/off switch	Work completed on 11/9/16. conduit and wiring completed by Glenn Fellows	Completed
PS 4 GridBee Compressor	2642	7/1/2016	PS 4 compressor dedicated electrical circuit		Completed
PS 4 Piping and Valves	2797	9/7/2016	Exercise valves		Completed
	2834	8/8/2016	Inspection of the pumps at station 4 grease, and measure the check valves for size	PM Completed. Refer to previous work	Completed
PS 4 Pump 1	1388	2/29/2016	PS #4 Pump 1 PM - Quarterly	Grease the pump and motor	Completed
	1493	2/4/2016	Drive coupler in need of replacement,		Completed
	1504	6/8/2016	Change coupler on pump 1	Changed out coupler	Completed
	2032	5/26/2016	PS #4 Pump 1 PM - Quarterly		Completed
	2571	8/11/2016	PS #4 Pump 1 PM - Quarterly		Completed
	3130	11/4/2016	PS #4 Pump 1 PM - Quarterly		Completed
PS 4 Pump 2	1389	2/29/2016	PS #4 Pump 2 PM - Quarterly	Grease the pump and motor	Completed
	1505	1/29/2016	Hard to start	With Tom Decosta, Eric Sutton no check soft-start and bypass start up of both pumps. Pump 2 drawing 46 amps, versus 33 amps for pump one. Pump 2 pumps ok, but comes to dead stop, when shut down. Suspect debris in volute in between casing and impeller.	Completed
	2033	5/26/2016	PS #4 Pump 2 PM - Quarterly		Completed
	2572	8/11/2016	PS #4 Pump 2 PM - Quarterly		Completed
	3131	11/4/2016	PS #4 Pump 2 PM - Quarterly		Completed
PS 4 Wet Well	1451	1/8/2016	Check manhole for debris	Opened manhole for inspection of debris	Completed
	1488	1/21/2016	Windriver in to clean wetwell	Lowered vacuum pipe removed debris from wetwell	Completed
	1737	2/29/2016	Wetwell inspection	Quarter of wetwell covered in debris	Completed
	1898	3/1/2016	Wet well / drywell penetrations for aeration system		Completed
	1910	3/3/2016	Cleaned wetwell of debris with windriver	Vactored wetwell of debris with windriver	Completed
	1961	3/29/2016	Wetwell inspection	Wetwell Inspected. Slight amount of rags and debris on surface of water.	Completed

PS 4

PS 5	2239	7/22/2016	Inspection of wetwell for debris	windriver in to clean wetwell	Completed
	2289	5/16/2016	Inspection	Monitor debris accumulation	Completed
	2443	6/1/2016	Inspection of wetwell for debris		Completed
	2684	7/14/2016	Wetwell inspection	Wetwell Inspected. Little to no surface solids	Completed
	3205	10/5/2016	Wetwell Inspected	Wetwell Inspected. Little to no debris present	Completed
	1188	1/13/2016	PS #5 Inspection - Monthly		Completed
	1365	2/1/2016	PS #5 Inspection - Monthly		Completed
	1494	1/25/2016	Safety mesh for pump 1 and 2	Covered with safety mesh both pumps, to prevent the possibility of accident of rotating parts,	Completed
	1540	3/21/2016	PS #5 Inspection - Monthly		Completed
	1783	4/14/2016	PS #5 Inspection - Monthly		Completed
PS 5 Building PS 5 Generator	2009	5/4/2016	PS #5 Inspection - Monthly		Completed
	2166	6/1/2016	PS #5 Inspection - Monthly		Completed
	2371	7/1/2016	PS #5 Inspection - Monthly		Completed
	2545	8/1/2016	PS #5 Inspection - Monthly		Completed
	2761	9/1/2016	PS #5 Inspection - Monthly		Completed
	2861	8/17/2016	Pump out debris island from wet well by wind river!	We removed the debris from wet well and the aeration diffuser, assisted by wind river!	Completed
	2935	11/23/2016	PS #5 Inspection - Monthly	Assisted by Eric Sutton, we checked out the dry well condition and grease the pump and motor, check out the pump pump operations, all good at this time.	Completed
	3104	11/4/2016	PS #5 Inspection - Monthly		Completed
	3307	12/29/2016	PS #5 Inspection - Monthly	Wetwell Inspected. Debris level estimated at 10%	Completed
	3403	11/22/2016	Hatch grating weak	eric was dispatched work order cut plywood to fit over grating	Completed
PS 5 Piping and Valves PS 5 Pump 1	1207	1/5/2016	PS #5 Generator Inspection and Load Test - Monthly		Completed
	1208	1/5/2016	PS #5 Generator Inspection and Test - Weekly	Ran generator load test complete	Completed
	1209	1/14/2016	PS #5 Generator Inspection and Test - Weekly	Power loss on 1/10 /16 the emergency generator ran for 4 hours under load,	Completed
	1210	1/19/2016	PS #5 Generator Inspection and Test - Weekly	Ran generator no load today!	Completed
	1211	1/26/2016	PS #5 Generator Inspection and Test - Weekly		Completed
	1390	2/2/2016	PS #5 Generator Inspection and Test - Weekly	No load	Completed
	1391	2/12/2016	PS #5 Generator Inspection and Test - Weekly	Ran generator load test complete	Completed
	1392	2/17/2016	PS #5 Generator Inspection and Test - Weekly		Completed
	1393	2/21/2016	PS #5 Generator Inspection and Test - Weekly	No load	Completed
	1394	2/1/2016	PS #5 Generator Inspection and Load Test - Monthly		Completed
PS 5 Piping and Valves PS 5 Pump 1	1560	3/11/2016	PS #5 Generator Inspection and Test - Weekly	Ran generator no load today!	Completed
	1561	3/16/2016	PS #5 Generator Inspection and Test - Weekly	Ran generator no load today!	Completed
	1562	3/1/2016	PS #5 Generator Inspection and Test - Weekly		Completed
	1563	3/4/2016	PS #5 Generator Inspection and Load Test - Monthly	Ran generator load test complete!	Completed
	1805	4/12/2016	PS #5 Generator Inspection and Load Test - Monthly	Load test	Completed
	1806	3/29/2016	PS #5 Generator Inspection and Test - Weekly		Completed
	1809	4/20/2016	PS #5 Generator Inspection and Test - Weekly		Completed
	1810	5/12/2016	PS #5 Generator Inspection and Test - Weekly	weekly generator run	Completed
	2035	5/10/2016	PS #5 Generator Inspection and Test - Weekly		Completed
	2036	5/24/2016	PS #5 Generator Inspection and Test - Weekly		Completed
PS 5 Piping and Valves PS 5 Pump 1	2037	5/1/2016	PS #5 Generator Inspection and Test - Weekly		Completed
	2038	5/4/2016	PS #5 Generator Inspection and Load Test - Monthly		Completed
	2188	6/1/2016	PS #5 Generator Inspection and Test - Weekly		Completed
	2189	6/1/2016	PS #5 Generator Inspection and Test - Weekly		Completed
	2190	6/1/2016	PS #5 Generator Inspection and Test - Weekly		Completed
	2191	6/21/2016	PS #5 Generator Inspection and Test - Weekly		Completed
	2192	7/1/2016	PS #5 Generator Inspection and Test - Weekly		Completed
	2193	6/3/2016	PS #5 Generator Inspection and Load Test - Monthly		Completed
	2284	5/16/2016	Leaking coolant		Completed
	2390	7/8/2016	PS #5 Generator Inspection and Load Test - Monthly		Completed
PS 5 Piping and Valves PS 5 Pump 1	2391	7/8/2016	PS #5 Generator Inspection and Test - Weekly		Completed
	2392	7/14/2016	PS #5 Generator Inspection and Test - Weekly		Completed
	2393	7/1/2016	PS #5 Generator Inspection and Test - Weekly		Completed
	2394	7/31/2016	PS #5 Generator Inspection and Test - Weekly		Completed
	2483	6/25/2016	Redo wiring and install new breaker	Glenn repl and install new circuit breaker and wiring.	Completed
	2573	8/1/2016	PS #5 Generator Inspection and Load Test - Monthly		Completed
	2574	8/7/2016	PS #5 Generator Inspection and Test - Weekly		Completed
	2575	8/16/2016	PS #5 Generator Inspection and Test - Weekly	Ran generator load test complete!	Completed
	2576	8/16/2016	PS #5 Generator Inspection and Test - Weekly		Completed
	2577	8/25/2016	PS #5 Generator Inspection and Test - Weekly	Ran generator no load today!	Completed
PS 5 Piping and Valves PS 5 Pump 1	2578	8/29/2016	PS #5 Generator Inspection and Test - Weekly	Ran generator no load today!	Completed
	2780	9/6/2016	PS #5 Generator Inspection and Test - Weekly		Completed
	2781	9/1/2016	PS #5 Generator Inspection and Test - Weekly		Completed
	2782	9/20/2016	PS #5 Generator Inspection and Test - Weekly		Completed
	2783	9/1/2016	PS #5 Generator Inspection and Test - Weekly		Completed
	2784	9/12/2016	PS #5 Generator Inspection and Load Test - Monthly	Ran generator load test complete!	Completed
	2954	10/3/2016	PS #5 Generator Inspection and Test - Weekly		Completed
	2955	10/1/2016	PS #5 Generator Inspection and Test - Weekly		Completed
	2956	10/1/2016	PS #5 Generator Inspection and Test - Weekly		Completed
	2957	10/30/2016	PS #5 Generator Inspection and Test - Weekly		Completed
PS 5 Piping and Valves PS 5 Pump 1	2958	10/11/2016	PS #5 Generator Inspection and Load Test - Monthly	Load test complete! Battery life is not good or charging system is not charging! I slow starting	Completed
	3132	11/6/2016	PS #5 Generator Inspection and Test - Weekly		Completed
	3133	11/1/2016	PS #5 Generator Inspection and Test - Weekly		Completed
	3134	11/1/2016	PS #5 Generator Inspection and Test - Weekly		Completed
	3135	11/1/2016	PS #5 Generator Inspection and Test - Weekly		Completed
	3136	11/28/2016	PS #5 Generator Inspection and Test - Weekly		Completed
	3137	11/1/2016	PS #5 Generator Inspection and Load Test - Monthly		Completed
	3230	10/13/2016	Battery for the emergency generator needs to be replaced, outdated vintage! 2007	Replace the old battery with a new battery station 5 had a dead battery to find that all of the battery's were outdated 2007 vintage, operating normal again. I	Completed
	3326	12/5/2016	PS #5 Generator Inspection and Test - Weekly		Completed
	3327	12/20/2016	PS #5 Generator Inspection and Test - Weekly	Ran generator load test today!	Completed
PS 5 Piping and Valves PS 5 Pump 1	3328	12/1/2016	PS #5 Generator Inspection and Test - Weekly	Work Completed.	Completed
	3329	12/29/2016	PS #5 Generator Inspection and Test - Weekly		Completed
	3330	12/1/2016	PS #5 Generator Inspection and Load Test - Monthly	Work Completed.	Completed
	2798	9/7/2016	Exercise valves		Completed
	1395	2/29/2016	PS #5 Pump 1 PM - Quarterly	Grease the pump and motor	Completed
	2039	5/26/2016	PS #5 Pump 1 PM - Quarterly		Completed

	2579	8/11/2016	PS #5 Pump 1 PM - Quarterly		Completed
	3138	11/4/2016	PS #5 Pump 1 PM - Quarterly		Completed
PS 5 Pump 2	1396	2/29/2016	PS #5 Pump 2 PM - Quarterly	Grease the pump and motor	Completed
	2040	5/26/2016	PS #5 Pump 2 PM - Quarterly		Completed
	2580	8/11/2016	PS #5 Pump 2 PM - Quarterly		Completed
	3139	11/4/2016	PS #5 Pump 2 PM - Quarterly		Completed
	3189	9/30/2016	Pump 2 has low flow rate do to being air bound	ES,RC arrived at location 1person went down bled pump, then ran pump now flow rate has returned to normal	Completed
PS 5 Reliant Aeration Diffusor	2103	4/11/2016	Install the new air diffuser to station 5 Wet well, fabricate new supports to allow mounting of new air blower inside the building. Also mount air tubing thru side of building outside and underground	Completed the new installation of air blower system inside station 5 and fabricate the installation of the air supply hose inside conduit to enter the wet well below the cover!	Completed
	2116	4/20/2016	Inspection of wetwell aerator for debris and grease	Opened wetwell for debris and grease take picture and document on DO forms	Completed
	2716	7/26/2016	Pump 2 is running but not pumping , suspect that the pump is ragged up or air bound,	We raised the diffuser about 14 inches turned air back on cycled the pump 4 times we think that the diffuser was below the bell of the intake of the pump and filling with air, causing the pump to go air bound,	Completed
PS 5 Sump Pump	1854	3/3/2016	Sump pump on but not pumping		Completed
	3019	10/24/2016	Sump Pump running but not pumping.	Replaced sump pump in PS 5	Completed
PS 5 Wet Well	1452	1/8/2016	Check manhole for debris	Opened manhole inspection of debris	Completed
	1485	1/21/2016	Station 5 wetwell cleaning	Lowered vacuum pipe removed debris from wetwell	Completed
	1738	2/29/2016	Wetwell inspection	Largely occupied by debris	Completed
	1873	6/8/2016	Check wetwell and drywell penetrations for aeration system		Completed
	1874	3/1/2016	Drywell penetration line to wetwell	Documentation	Completed
	1904	3/3/2016	Clean wetwell with windriver	Vactored wetwell of debris	Completed
	1946	3/1/2016	Inspection of wetwell		Completed
	1962	3/29/2016	Wetwell inspection	Wetwell Inspected, 100% covered, Cleaning required	Completed
	2105	4/13/2016	Windriver in to clean wetwell	Vactored wetwell of debris, then installed aerator in wetwell then a bit later electrician finished wiring aerator motor and turn on	Completed
	2113	4/14/2016	Inspection of wetwell aerator and debris	Opened manhole inspected wetwell for debris and aerator working	Completed
	2240	5/1/2016	Inspection of wetwell for debris - PS 5		Completed
	2290	5/16/2016	Inspection	Monitor debris accumulation	Completed
	2445	6/8/2016	Inspection of wetwell for debris	Opened wetwell for inspection of debris 0 % debris	Completed
	2685	7/14/2016	Wetwell inspection	Wetwell Inspected. Little to no surface solids present	Completed
	3191	9/30/2016	Inspection of wetwell for debris,	Inspection of wetwell,	Completed
	3206	10/5/2016	Wetwell Inspected	Wetwell Inspected. About 25% of debris on surface level	Completed
	3256	10/26/2016	Vacuum out floatables in wet well with windriver	Vac out wet well scum with wind river	Completed
PS 6	1189	1/13/2016	PS #6 Inspection - Monthly		Completed
	1366	2/1/2016	PS #6 Inspection - Monthly		Completed
	1541	3/21/2016	PS #6 Inspection - Monthly		Completed
	1741	2/29/2016	Pump 1&2 need safety mesh installed on the pump frame	Installed on the pump frame of pumps 1&2 safety mesh to prevent the possibility of accident of rotating parts.	Completed
	1784	4/14/2016	PS #6 Inspection - Monthly		Completed
	2010	5/4/2016	PS #6 Inspection - Monthly		Completed
	2167	6/1/2016	PS #6 Inspection - Monthly		Completed
	2372	7/1/2016	PS #6 Inspection - Monthly		Completed
	2465	6/18/2016	Pump low gpm	Dragged pump 2	Completed
	2546	8/1/2016	PS #6 Inspection - Monthly		Completed
	2762	9/1/2016	PS #6 Inspection - Monthly		Completed
	2936	11/23/2016	PS #6 Inspection - Monthly	Assisted by Eric Sutton we checked out the dry well condition and grease the pump and motor check out the sump pump operations. All good at this time,	Completed
	3105	11/4/2016	PS #6 Inspection - Monthly		Completed
	3308	12/29/2016	PS #6 Inspection - Monthly	Unable to see Wetwell	Completed
PS 6 Building	1935	3/17/2016	Safety audit item 34 & 37	Safety by choice	Completed
	2244	5/1/2016	Checking high drywell floats at sump area high floats failed to reach scada		Completed
	2628	7/6/2016	Installation of gridbee earator	Brian cored a hole in 2nd level close to ceiling which was about 18" deep at ground level, we the installed pvc pipe ran earator hose thru pipe, lowered earator and turned on. Back filled trench	Completed
	2698	7/18/2016	Measurement of girls bathroom door	Measurement of door is 3.0/6-11 actual clearance is two foot ten and a half, by six ten and a half	Completed
	2708	7/23/2016	Ferric chloride feed system leak	Assisted by JG & PO - found leak of approx 5 to 10 gallons inside building on discharge tubing (existing tube). Tube was brittle and broke. Use drum pump to empty 5 gal pail and then hosed down walls and floors of all residual chemical. (All 4 levels). Reconnect and test ok.	Completed
PS 6 Generator	1217	1/5/2016	PS #6 Generator Inspection and Test - Weekly	Ran generator load test complete!	Completed
	1218	1/14/2016	PS #6 Generator Inspection and Test - Weekly	Power loss on 1/10 /16 the emergency generator ran for 4 hours under load , ran today no load!	Completed
	1219	1/19/2016	PS #6 Generator Inspection and Test - Weekly	Ran generator no load today!	Completed
	1220	1/26/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	1221	1/5/2016	PS #5 Generator Inspection and Load Test - Monthly	Ran generator load test complete!	Completed
	1408	2/1/2016	PS #5 Generator Inspection and Load Test - Monthly		Completed
	1409	2/2/2016	PS #6 Generator Inspection and Test - Weekly	No load	Completed
	1410	2/12/2016	PS #6 Generator Inspection and Test - Weekly	Ran generator load test complete	Completed
	1411	2/17/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	1412	2/21/2016	PS #6 Generator Inspection and Test - Weekly	No load	Completed
	1569	3/4/2016	PS #5 Generator Inspection and Load Test - Monthly	Ran generator load test complete!	Completed
	1571	3/11/2016	PS #6 Generator Inspection and Test - Weekly	Ran generator no load today!	Completed
	1572	3/16/2016	PS #6 Generator Inspection and Test - Weekly	Ran generator no load today!	Completed
	1573	3/1/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	1817	3/29/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	1820	4/20/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	1821	5/12/2016	PS #6 Generator Inspection and Test - Weekly	weekly generator run	Completed
	1822	4/12/2016	PS #5 Generator Inspection and Load Test - Monthly	Load test	Completed
	2053	5/10/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	2054	5/24/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	2055	5/1/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	2056	5/4/2016	PS #5 Generator Inspection and Load Test - Monthly		Completed

	2200	6/3/2016	PS #5 Generator Inspection and Load Test - Monthly		Completed
	2201	6/9/2016	PS #6 Generator Inspection and Test - Weekly	Service Incident Completed	Completed
	2202	6/11/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	2203	6/11/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	2204	6/21/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	2205	7/1/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	2400	7/8/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	2401	7/14/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	2402	7/1/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	2403	7/31/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	2404	7/8/2016	PS #5 Generator Inspection and Load Test - Monthly		Completed
	2593	8/7/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	2594	8/16/2016	PS #6 Generator Inspection and Test - Weekly	Ran generator load test complete!	Completed
	2595	8/16/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	2596	8/1/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	2597	8/29/2016	PS #6 Generator Inspection and Test - Weekly	Ran generator no load today!	Completed
	2598	8/1/2016	PS #5 Generator Inspection and Load Test - Monthly		Completed
	2790	9/12/2016	PS #5 Generator Inspection and Load Test - Monthly	Ran generator load test complete!	Completed
	2791	9/6/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	2792	9/1/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	2793	9/20/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	2794	9/1/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	2964	10/1/2016	PS #5 Generator Inspection and Load Test - Monthly	Ran generator load test today!	Completed
	2965	10/3/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	2966	10/1/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	2967	10/1/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	2968	10/30/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	3152	11/6/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	3153	11/1/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	3154	11/1/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	3155	11/1/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	3156	11/28/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	3157	11/1/2016	PS #5 Generator Inspection and Load Test - Monthly		Completed
	3231	10/13/2016	Outdated battery for the emergency generator needs to be replaced.	Remove the old battery and replace it with a new battery as the old one is outdated 2007 vintage!	Completed
	3336	12/5/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	3337	12/20/2016	PS #6 Generator Inspection and Test - Weekly	Ran generator load test today!	Completed
	3338	12/1/2016	PS #6 Generator Inspection and Test - Weekly	Work Completed.	Completed
	3339	12/29/2016	PS #6 Generator Inspection and Test - Weekly		Completed
	3340	12/1/2016	PS #5 Generator Inspection and Load Test - Monthly	Work Completed.	Completed
PS 6 Gridbee Aerator	2643	7/1/2016	PS 6 Compressor dedicated circuit		Completed
PS 6 Piping and Valves	2799	9/7/2016	Exercise valves		Completed
PS 6 Pump 1	1397	2/29/2016	PS #6 Pump 1 PM - Quarterly	Grease the pump and motor	Completed
	1497	1/27/2016	Pump 1 pumping below average.	Pump deragged. Operating normally.	Completed
	1593	2/11/2016	Pump 1 GPM lower than average.	LOTO performed. Deragged pump 1	Completed
	1876	3/2/2016	Pump GPM less than usual. Averaging 500-560 GPM comparatively to the usual 630 GPM. Requires Derag	deragged pump	Completed
	1941	3/19/2016	Reduced output GPM	Assisted by Joe Basler, pump 1 de-ragged of debris. Test ok.	Completed
	2041	5/26/2016	PS #6 Pump 1 PM - Quarterly		Completed
	2072	4/1/2016	No power	Found no power at mcc. Perform LOTO Chk and found overload relay had tripped. Reset. Then chk pump, and it had lower than expected output. Isolate and inspect. Pump needed to be cleaned also.	Completed
	2226	5/3/2016	Deragged pump #1 do to low flow rate	Loto performed shut suction and discharge removed debris from pump	Completed
	2285	5/16/2016	Low flow ,suspect that the pump is ragged up.	Loto pump 1 isolated valving to pump 1 and remove inspection cover to remove rags and debris. Flow back to normal	Completed
	2303	5/21/2016	Station 6 pump 1 has low flow rate	Loto performed shut suction and discharge valve removed debris from pump	Completed
	2325	5/26/2016	Pump tripped during power transfer	Reset breaker in panel	Completed
	2342	5/31/2016	Defragging of debris from impeller	Loto performed removed debris from pump	Completed
	2464	6/18/2016	Low gpm on pumps	Dragged pumps 1&2 &loto	Completed
	2484	6/27/2016	GPM less than normal. In need of deragging	LOTO performed. Deragged pump 1	Completed
	2581	8/11/2016	PS #6 Pump 1 PM - Quarterly		Completed
	2887	8/25/2016	Pump functioning with less than normal GPM. In need of Deragging	LOTO performed. Deragged pump 1	Completed
	3027	9/15/2016	GPM less than normal. In need of derag	LOTO performed. Deragged pump 1	Completed
	3050	9/23/2016	Deragged pump 1 low flow rate	Loto performed shut suction and discharge valves opened inspection plate removed debris from pump opened suction and discharge valves primed pump now normal flow 650gpm	Completed
	3140	11/4/2016	PS #6 Pump 1 PM - Quarterly		Completed
	3226	10/13/2016	Pump 1 is pumping slower than normal suspect that the pump is plugged with rags and debris,	LOTO the pump and remove all the rags and debris from impeller . Flows back to normal now. Assistance by John Currier, Rick Clark	Completed
PS 6 Pump 2	3549	12/8/2016	Pump running at 580GPM. Derag needed	LOTO performed. Deragged pump 1	Completed
	1398	2/29/2016	PS #6 Pump 2 PM - Quarterly	Grease the pump and motor	Completed
	1726	2/25/2016	Low flow from pump need to be deragged	Loto performed removed inspection port deragged pump checked flow of pump now reading 653	Completed
	1933	3/16/2016	Derag	Pump 2 LOTO performed. Derag complete	Completed
	2042	5/26/2016	PS #6 Pump 2 PM - Quarterly		Completed
	2097	4/8/2016	Pump # 2 had low flow gpm	Loto performed then deragged pump	Completed
	2227	5/3/2016	Deragged pump # 2 do to low flow rate	Loto performed shut suction and discharge valve removed debris from pump	Completed
	2343	5/31/2016	Defragging of debris from pump impeller	Loto performed removed debris from pump	Completed
	2485	6/27/2016	GPM less than normal. In need of deragging	LOTO performed. Deragged pump 2	Completed
	2582	8/11/2016	PS #6 Pump 2 PM - Quarterly		Completed
	2677	7/14/2016	Needs Derag	LOTO performed. Deragged pump 2	Completed
PS 6 Wet Well	3141	11/4/2016	PS #6 Pump 2 PM - Quarterly		Completed
	1453	1/8/2016	Check wetwell for debris	Opened manhole for inspection of debris	Completed
	1739	2/29/2016	Wetwell inspection	Unable to properly identify debris level	Completed
	1900	3/1/2016	Wet well / drywell penetrations for aeration		Completed
	2106	4/13/2016	Windriver in to clean wetwell	Cleaned wetwell of debris and grease	Completed
	2446	6/8/2016	Inspection of wetwell for debris	Opened wetwell for inspection of debris 0 % debris	Completed
	2686	7/14/2016	Wetwell inspection	Wetwell Inspected. Little to no surface solids seen for visual inspection	Completed

PS 9	3207	10/5/2016	Wetwell Inspected	Wetwell Inspected, Little to no debris present	Completed
	1190	1/13/2016	PS #9 Inspection - Monthly	tested floats	Completed
PS 9 Building	1367	2/1/2016	PS #9 Inspection - Monthly		Completed
	1542	3/21/2016	PS #9 Inspection - Monthly		Completed
	1785	4/14/2016	PS #9 Inspection - Monthly		Completed
	2011	5/4/2016	PS #9 Inspection - Monthly		Completed
	2168	6/1/2016	PS #9 Inspection - Monthly		Completed
	2373	7/1/2016	PS #9 Inspection - Monthly		Completed
	2547	8/8/2016	PS #9 Inspection - Monthly		Completed
	2763	9/1/2016	PS #9 Inspection - Monthly		Completed
	2937	11/23/2016	PS #9 Inspection - Monthly	Assisted by Eric Sutton we checked out the dry well condition and grease the pump and motor, check out the sump pump operations, all good at this time.	Completed
	3106	11/7/2016	PS #9 Inspection - Monthly		Completed
PS 9 Generator	3309	12/29/2016	PS #9 Inspection - Monthly	Wetwell Inspected, No debris present	Completed
	3431	11/30/2016	Anchor ladder lower level	Anchor ladder	Completed
PS 9 Building	2222	5/3/2016	Fall protection Safety audit item #40	Task completed Item # 40 safety audit	Completed
	2709	7/24/2016	Drywell High Water Level Alarm. Alarm active for 26 seconds before auto-acknowledging itself.	Checked drywell, moist appearance yet no flooding detected. Faulty alarm.	Completed
PS 9 Generator	1212	1/5/2016	PS #9 Generator Inspection and Load Test - Monthly		Completed
	1213	1/5/2016	PS #9 Generator Inspection and Test - Weekly	Ran generator load test complete	Completed
PS 9 Generator	1214	1/14/2016	PS #9 Generator Inspection and Test - Weekly	Power loss on 1/10/16 the emergency generator ran for 4 hours, under load, ran today no load!	Completed
	1215	1/19/2016	PS #9 Generator Inspection and Test - Weekly	Ran generator no load today!	Completed
PS 9 Generator	1216	1/26/2016	PS #9 Generator Inspection and Test - Weekly		Completed
	1399	2/1/2016	PS #9 Generator Inspection and Load Test - Monthly		Completed
PS 9 Generator	1400	2/2/2016	PS #9 Generator Inspection and Test - Weekly	No load	Completed
	1401	2/12/2016	PS #9 Generator Inspection and Test - Weekly	Ran generator load test complete!	Completed
PS 9 Generator	1402	2/17/2016	PS #9 Generator Inspection and Test - Weekly		Completed
	1403	2/21/2016	PS #9 Generator Inspection and Test - Weekly	No load	Completed
PS 9 Generator	1476	1/14/2016	Emergency generator, block heater is over heating, needs replacement!	Replaced block heater on the emergency generator, coolant temperature back to normal with new heater installed parts we had in inventory!	Completed
	1564	3/6/2016	PS #9 Generator Inspection and Load Test - Monthly	Generator LOAD-TEST performed. AC VOLTS - 400. AC AMPERES - 0. HERTZ - 60. OIL - 75. WATER TEMP - 170.. BATTERY - 14.	Completed
PS 9 Generator	1566	3/11/2016	PS #9 Generator Inspection and Test - Weekly	Ran generator no load today!	Completed
	1567	3/16/2016	PS #9 Generator Inspection and Test - Weekly	Ran generator no load today!	Completed
PS 9 Generator	1568	3/22/2016	PS #9 Generator Inspection and Test - Weekly	Ran generator no load today!	Completed
	1811	4/12/2016	PS #9 Generator Inspection and Load Test - Monthly	Load test	Completed
PS 9 Generator	1812	3/29/2016	PS #9 Generator Inspection and Test - Weekly		Completed
	1815	4/20/2016	PS #9 Generator Inspection and Test - Weekly		Completed
PS 9 Generator	1816	5/12/2016	PS #9 Generator Inspection and Test - Weekly	weekly generator run	Completed
	2043	5/4/2016	PS #9 Generator Inspection and Load Test - Monthly		Completed
PS 9 Generator	2045	5/10/2016	PS #9 Generator Inspection and Test - Weekly		Completed
	2046	5/24/2016	PS #9 Generator Inspection and Test - Weekly		Completed
PS 9 Generator	2047	5/1/2016	PS #9 Generator Inspection and Test - Weekly		Completed
	2194	6/3/2016	PS #9 Generator Inspection and Load Test - Monthly		Completed
PS 9 Generator	2195	6/7/2016	PS #9 Generator Inspection and Test - Weekly	Service Incident Completed	Completed
	2196	6/1/2016	PS #9 Generator Inspection and Test - Weekly		Completed
PS 9 Generator	2197	6/1/2016	PS #9 Generator Inspection and Test - Weekly		Completed
	2198	7/1/2016	PS #9 Generator Inspection and Test - Weekly		Completed
PS 9 Generator	2199	7/1/2016	PS #9 Generator Inspection and Test - Weekly		Completed
	2395	7/8/2016	PS #9 Generator Inspection and Load Test - Monthly		Completed
PS 9 Generator	2396	7/8/2016	PS #9 Generator Inspection and Test - Weekly		Completed
	2397	7/14/2016	PS #9 Generator Inspection and Test - Weekly		Completed
PS 9 Generator	2398	7/1/2016	PS #9 Generator Inspection and Test - Weekly		Completed
	2399	7/31/2016	PS #9 Generator Inspection and Test - Weekly		Completed
PS 9 Generator	2583	8/1/2016	PS #9 Generator Inspection and Load Test - Monthly		Completed
	2584	8/7/2016	PS #9 Generator Inspection and Test - Weekly		Completed
PS 9 Generator	2585	8/16/2016	PS #9 Generator Inspection and Test - Weekly	Ran generator load test complete!	Completed
	2586	8/16/2016	PS #9 Generator Inspection and Test - Weekly		Completed
PS 9 Generator	2587	8/25/2016	PS #9 Generator Inspection and Test - Weekly	Ran generator no load today!	Completed
	2588	8/29/2016	PS #9 Generator Inspection and Test - Weekly	Ran generator no load today!	Completed
PS 9 Generator	2785	9/12/2016	PS #9 Generator Inspection and Load Test - Monthly	Ran generator load test complete!	Completed
	2786	9/6/2016	PS #9 Generator Inspection and Test - Weekly		Completed
PS 9 Generator	2787	9/1/2016	PS #9 Generator Inspection and Test - Weekly		Completed
	2788	9/20/2016	PS #9 Generator Inspection and Test - Weekly		Completed
PS 9 Generator	2789	9/1/2016	PS #9 Generator Inspection and Test - Weekly		Completed
	2959	10/11/2016	PS #9 Generator Inspection and Load Test - Monthly	Load test complete!	Completed
PS 9 Generator	2960	10/3/2016	PS #9 Generator Inspection and Test - Weekly		Completed
	2961	10/1/2016	PS #9 Generator Inspection and Test - Weekly		Completed
PS 9 Generator	2962	10/1/2016	PS #9 Generator Inspection and Test - Weekly		Completed
	2963	10/30/2016	PS #9 Generator Inspection and Test - Weekly		Completed
PS 9 Generator	3142	11/1/2016	PS #9 Generator Inspection and Load Test - Monthly		Completed
	3143	11/6/2016	PS #9 Generator Inspection and Test - Weekly		Completed
PS 9 Generator	3144	11/1/2016	PS #9 Generator Inspection and Test - Weekly		Completed
	3145	11/1/2016	PS #9 Generator Inspection and Test - Weekly		Completed
PS 9 Generator	3146	11/1/2016	PS #9 Generator Inspection and Test - Weekly		Completed
	3147	11/28/2016	PS #9 Generator Inspection and Test - Weekly		Completed
PS 9 Generator	3232	10/14/2016	Battery for the emergency generator needs to be replaced, outdated vintage! 2007	Remove the old battery and replace it with a new battery operating normal again.	Completed
	3331	12/1/2016	PS #9 Generator Inspection and Load Test - Monthly	Work Completed.	Completed
PS 9 Generator	3332	12/5/2016	PS #9 Generator Inspection and Test - Weekly		Completed
	3333	12/21/2016	PS #9 Generator Inspection and Test - Weekly	Ran generator load test today!	Completed
PS 9 Generator	3334	12/1/2016	PS #9 Generator Inspection and Test - Weekly	Work Completed.	Completed
	3335	12/29/2016	PS #9 Generator Inspection and Test - Weekly		Completed
PS 9 GridBee Aerator	2627	7/6/2016	Installation of gridbee aerator	Opened manhole, cored holes, installed aerator, cleaned area. Aerator now operational	Completed
	2639	7/1/2016	PS 9 Aerator install Punch List		Completed
PS 9 GridBee Aerator	2640	7/1/2016	PS #9 Aerator Compressor dedicated circuit		Completed
PS 9 Piping and Valves	2800	9/7/2016	Exercise valves		Completed
PS 9 Pump 1	1404	2/29/2016	PS #9 Pump 1 PM - Quarterly	Grease the pump and motor	Completed

PS 9 pump 1	1473	1/13/2016	Installed mesh safety guard on pump	Eric,Rick,John wrapped pump 1 with mesh safety guard	Completed
	2048	5/26/2016	PS #9 Pump 1 PM - Quarterly		Completed
	2589	8/11/2016	PS #9 Pump 1 PM - Quarterly		Completed
	3148	11/7/2016	PS #9 Pump 1 PM - Quarterly		Completed
	3251	10/22/2016	ID as pump 2 at station - not pumping	Assisted by Pat Owens and Kate Roosa backflush pump 2x and got to pump. Had to return to station an hour later. Perform LOTO and pull rotating assy, and appears an old float may be in the volute suction elbow. Need to pull lower Insp port to try and remove.	Completed
	3253	10/25/2016	Restricted suction line of pump 1 , suspect that it is plugged with some large object, just below the pump.	Assisted by Jody st George, and John Currier. We removed from the pump base , a complete float switch, that entered from the wet well	Completed
PS 9 Pump 2	1405	2/29/2016	PS #9 Pump 2 PM - Quarterly	Grease the pump and motor	Completed
	1474	1/13/2016	Installed mesh safety guard on pump 2	Eric,Rick,John wrapped pump with mesh safety guard	Completed
	2049	5/26/2016	PS #9 Pump 2 PM - Quarterly		Completed
	2590	8/11/2016	PS #9 Pump 2 PM - Quarterly		Completed
	3149	11/7/2016	PS #9 Pump 2 PM - Quarterly		Completed
PS 9 Sump Pump	2717	7/26/2016	Lower level inspection of moisture and sump pump, operation.	We removed the debris from the impeller of the pump and flow is back to normal	Completed
	2829	8/1/2016	Visual inspection of sump pump	Pump operating efficiently	Completed
	2830	8/3/2016	Hi water alarm in station 9 dry well ,sump pump operating normally, but multiple alarms continue. Found to be faulty float!	Lotto control panels to repair the wiring of the high water alarm system in lower level of station, we replaced with new parts in inventory a 3 wire float assembly. Replaced wires and wire nuts at connection of float to existing wiring. .	Completed
PS 9 Wet Well	1454	1/8/2016	Check wetwell for debris	Opened manhole for inspection of debris	Completed
	1489	1/21/2016	Windriver in to clean wetwell	Lowered vacuum pipe removed debris from wetwell. Also tried pumping to the bottom of the wetwell but flow was to much for truck	Completed
	1740	2/29/2016	Wetwell inspection	Very light amount of debris	Completed
	1902	3/1/2016	Wetwell / drywell penetrations for aeration		Completed
	1963	3/29/2016	Wetwell inspection	Clear wetwell	Completed
	2243	5/4/2016	Inspection of wetwell for debris	Opened wetwell for inspection of debris	Completed
	2291	5/16/2016	Inspection	Monitor accumulation	Completed
	2447	6/8/2016	Inspection of wetwell for debris	Opened wetwell for inspection of debris 0% debris	Completed
	2687	7/14/2016	Wetwell inspection	Wetwell Inspected. Little to no surface solids present	Completed
	3208	10/5/2016	Wetwell Inspected	Wetwell Inspected. Little to no debris present	Completed
PS A	1191	1/13/2016	PS #A Inspection - Monthly		Completed
	1368	2/1/2016	PS #A Inspection - Monthly		Completed
	1543	3/21/2016	PS #A Inspection - Monthly		Completed
	1786	4/14/2016	PS #A Inspection - Monthly		Completed
	2012	5/4/2016	PS #A Inspection - Monthly		Completed
	2169	6/1/2016	PS #A Inspection - Monthly		Completed
	2374	7/14/2016	PS #A Inspection - Monthly		Completed
				Wetwell Inspection and visual inspection of drywell.	Completed
	2548	8/1/2016	PS #A Inspection - Monthly		Completed
	2764	9/1/2016	PS #A Inspection - Monthly		Completed
	2849	8/14/2016	Power failure	Contacted Hull light and monitored station	Completed
	2938	11/23/2016	PS #A Inspection - Monthly	Assisted by Eric Sutton we checked out the dry well condition and the sump pump operations, no grease fittings on station A as pumps are the submersible type, all good with sump,alarm and overall conditions good at this time.	Completed
	3107	11/7/2016	PS #A Inspection - Monthly		Completed
	3310	12/29/2016	PS #A Inspection - Monthly	Wetwell Inspected. Debris level estimated at 3%	Completed
PS A GridBee Aerator	1947	3/24/2016	Install of gridbee aerator, pvc pipe,digging of trench, cement,work at wetwell area	Dug trench from building to wetwell, chiseled 2" hole thru wetwell for pvc pipe, ran aerator hose thru pipe into wetwell, cement all air holes inside wetwell and trench backfilled trench, mounted compressor on shelf.	Completed
	2114	4/20/2016	Inspection of wetwell for debris and grease with aerator installed	Inspected wetwell very clean no debris or grease	Completed
PS A Building	2854	8/1/2016	Door expanded due to heat. Door won't open		Completed
PS A GridBee Aerator Compressor	1944	4/8/2016	Connect new 110 volt powered aerator to electric panel.	Glenn	Completed
	2108	4/14/2016	Inspection of wetwell aerator and debris	Opened manhole checked wetwell and aerator no debris in wetwell and aerator working to capacity	Completed
PS A Modem	1592	2/10/2016	Station in commfail at 4:30pm.	Assisted by Rick, check station at 5pm and AV chk'd at 6pm. Contact verizon, ticket number MANE38555. They said ok, but it was not. Came out of commfail at approx 8:45pm. Unknown what corrected the issue	Completed
PS A Piping and Valves	2801	9/7/2016	Exercise valves		Completed
PS A Pump 1	1406	2/29/2016	PS A Pump 1 PM - Quarterly	Grease and inspect pump and motor assistance from John Currier.	Completed
	2050	5/26/2016	PS A Pump 1 PM - Quarterly		Completed
	2591	8/11/2016	PS A Pump 1 PM - Quarterly		Completed
	3150	11/7/2016	PS A Pump 1 PM - Quarterly		Completed
PS A Pump 2	1407	2/29/2016	PS A Pump 2 PM - Quarterly	Perform a p&m for pump and motor, greased the pump and motor	Completed
	2051	5/26/2016	PS A Pump 2 PM - Quarterly		Completed
	2592	8/11/2016	PS A Pump 2 PM - Quarterly		Completed
	3151	11/7/2016	PS A Pump 2 PM - Quarterly		Completed
PS A Sump Pump	1290	3/1/2016	Back up sump pump not working corrosion requires replacement of the pump,	discharge line plugged with debris.	Completed
	3547	12/7/2016	High dry well alarm ,sump pump not operating,	Assisted by Jody st George and Rick Clark, we checked pump operations and found that float switch was stuck restricted by the power cord rerouted the cord . Pump operating normally again.	Completed
PS A Wet Well	1448	1/8/2016	Check wetwell for debris	Opened manhole for inspection of debris	Completed
	1486	1/21/2016	Windriver in to clean wetwell	Lowered vacuum pipe removed debris from wetwell also pressure washed silo and ladder pumped wetwell down vacuumed wetwell down to bottom and removed all debris	Completed
	1735	2/29/2016	Wetwell inspection	Wetwell half full of debris	Completed
	1875	3/8/2016	Inspection for accessibility for wetwell aeration blower		Completed
	1906	3/3/2016	Cleaned wetwell of debris with windriver	Vactored wetwell of debris with windriver	Completed
	1960	3/1/2016	Inspection of wetwell for debris		Completed

PS A Wet well

	2125	4/27/2016	Trial run on shutting off station A for project at station 3 discharge force main at water st and nantasket ave we have a 2 hr window on this project before turning station back on	Turned off stations 1,A, and 3 watch wetwell levels and turn back on before any SSOs the there a 2hr window for this project station 1 was fine and never went in high level alarm	Completed
	2237	5/4/2016	Inspection of wetwell for debris	Opened wetwell for debris	Completed
	2287	5/16/2016	Inspection and record conditions	Non needed	Completed
	2441	6/8/2016	Inspection of wetwell for debris	Opened wetwell for inspection of debris 0% debris	Completed
	2682	7/14/2016	Wetwell inspection	Wetwell Inspected. Little to no debris present.	Completed
	3201	10/5/2016	Inspected Wetwell	Wetwell Inspected. Little to no debris present.	Completed
PS D - DPW Stormwater Pump	1503	1/28/2016	Finish cement work in effluent gallery	Finish cement work, install emergency quick connect pipe	Completed
	3267	10/28/2016	Monitor the pump at D street during high tidewater and heavy rain and wind, with the emergency pump ready to assist with the pump at D street!	Checked out the area where the streets flood during the high tidewater ,and heavy rain all went well with the pump keeping up with the rain that fell, we did not need to use emergency pump, but we were ready if needed.	Completed
PS D Building	1714	2/23/2016	Set trash pump do to oncoming weather	Hooked up pump to station	Completed
	3010	9/2/2016	Brought 4" trash pump to station D for possible heavy rain for the weekend	Assembled trash pump for weekend for possible heavy rain	Completed
	3613	12/29/2016	Set up 4" trash pump for extra support due to weather	Eric Joe arrived at location set up pump for the duration of the weather	Completed
PS D Modem	1708	2/22/2016	Pump station D in com fail	Called Verizon for a new ticket to work on station, they will be in touch	Completed
		2/23/2016	Pump station D in com fail	called verizon had them run test on station D which now wwpt can see the station from scada	Completed
PS D Wet Well	649	1/28/2016	Tide Gate Flapper hing damaged		Completed



Hull Wastewater

Work Order Information

Date: 05/13/2016

Type: Inspections

Status: Completed

Manhole ID: MH 20126

Priority: Normal

Reason: Operational

Description of Issue

Description: Manhole Inspection

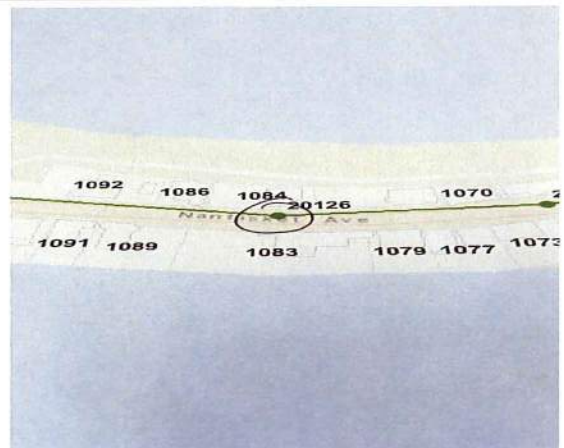
Notes: Inspection of manhole interceptor for low and high flow

Actions Taken

Staff: Eric Sutton

Service: Opened manhole took pictures with GO PRO downloaded in file

Photos





Hull Wastewater

Work Order Information

Date: 10/01/2016

Type: Inspections

Status: Completed

Manhole ID: MH 20825

Priority: Normal

Reason: Operational

Description of Issue

Description: Manhole Inspection

Notes: Inspection of manhole do to a back-up call on 5 Eastern ave see D/O form sems back-up. Did speak to homeowner telling her the street was fine plumber Ray Sarno on site

Actions Taken

Staff: Eric Sutton

Service: 230pm ES,RC opened manhole 20825, line flowing freely which ends up at station 4

Photos





Work Order

Hull Wastewater

Work Order Information

Date: 10/11/2016

Type: Inspections

Status: Completed

Asset: MH 20203

Priority: Normal

Reason: Operational

Description of Issue

Description: In Pipe Bacteria Unit Inspection

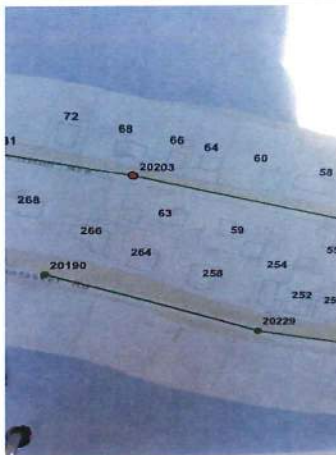
Notes:

Actions Taken

Staff: Eric Sutton

Service: Es Jc opened manhole replaced bacteria bottle number 18

Photos





Work Order

Hull Wastewater

Work Order Information

Date: 10/13/2016 **Type:** Corrective Maintenance **Status:** Completed
Asset: PS 6 Pump 1 **Priority:** Normal **Reason:** Mechanical

Description of Issue

Description: Pump 1 is pumping slower than normal suspect that the pump is plugged with rags and debris,

Notes: LOTO pump 1 and controls isolated the pump and remove the debris from the impeller

Actions Taken

Staff: Joe Basler

Service: LOTO the pump and remove all the rags and debris from impeller . Flows back to normal now.
Assistance by John Currier, Rick Clark

Photos



Shows the debris from the impeller removed,



Work Order - Grinder Pump Alarm

Hull Wastewater

Work Order Information

Date: 10/23/2016 **Type:** Corrective Maintenance **Status:** Completed
Asset: Grinder Pump 37 ELM AVE **Priority:** Normal **Reason:** Operational
Serial # In **Serial_In**
Serial # Out **Serial_Out**

Description of Issue

Description: Grinder Pump went into alarm.

Caller Name Christine Sullivan

Phone # 781 925 8877

Notes:

Actions Taken

Staff: John Currier

Service: LOTO Performed. Drained grinder pump pit into tote. Replaced malfunctioning Grinder Pump with Repaired Grinder Pump.

Photos



Grinder Pump going in



Grinder Pump coming out



Dig Safe

Hull Wastewater

Work Order Information

Date: 10/27/2016 **Type:** Inspections **Status:** Completed
Asset: Dig Safe Requests **Priority:** Normal **Reason:** Client Support

Dig Safe Information

Description: 20164306311 38 Channel Street. Sewer Markout

Pre Marked? Yes **Tie Cards Available?** Yes
Requested By Aquarion Water

Actions Taken

Staff: John Currier **Labor Hours** 0.15

Service: Marked Dig Safe

Photos





Work Order - Backup or Blockage Call

Hull Wastewater

Work Order Information

Date:	10/28/2016	Type:	Corrective Maintenance	Status:	Completed
Asset:	22 - WW - sewers/pipes/force mains	Priority:	Normal	Reason:	Service Call

Description of Issue

Description: 25 Summit Ave.

Notes: Request by home owner, John King. Slow flow from house.

Actions Taken

Staff: Aram Varjarbedian

Service: Inspect manholes 20982, 20985 and sure manhole/cleanout in bushes in between #33 and #37. No issues and flowing ok. house no 25, 29,33,37,37A all flow into a lie behind these houses. Clear and flowing. No other cleanout outside. Report back to homeowner.

Photos



Cleanout manhole in bushes between #33 and 37



Cleanout manhole in bushes.

APPENDIX C: COMPLETED CMOM AND I/I PROJECTS EXPENDITURES

FY 2016 CMOM Expenditures

Contractor (Department)	Invoice Date	Category	Description of Work	Amount	Work Performed via
Hub Construction (Town)	3/7/2016	Emergency	Emergency service connection repair to 5 Main Street (Lateral service on Vautrinot Avenue)	\$ 4,657.00	TOWN
Hub Construction (Town)	3/7/2016	Emergency	Emergency service connection repair at 34 Porazzo Road	\$ 3,540.00	TOWN
Hub Construction (Town)	3/7/2016	Corrective	Rebuilt sewer chimney and reset frame at 4-6 Gunrock Avenue. Replaced broken frame at Gunrock Avenue and Atlantic Avenue.	\$ 3,245.00	TOWN
Hub Construction (Town)	3/16/2016	Emergency	Emergency service connection repair at 4 South Street (replaced shallow culvert with PVC)	\$ 1,810.00	TOWN
Hub Construction (Town)	4/20/2016	Corrective	Replacement of sewer manholes at corner of Moreland Avenue and Bay Street, Marginal Road and 10 Moreland Ave. Involved resetting frames and covers, and repaving after manhole replacement. Also rebuilt sewer manholes at Pump Station #3 and 157 Nanatasket Avenue.	\$ 5,975.00	TOWN
Hub Construction (Town)	6/8/2016	Corrective	Replacement of broken frames and covers (with reset chimneys as needed) along Fairmont Way, Bay Street, Gun Rock Avenue and Damon Park Road.	\$ 7,110.00	TOWN
Hub Construction (Town)	6/10/2016	Corrective	Replaced frames and covers (and reset chimneys as necessary) along corner of Prospect and Newport Avenues, Touraine and Newport Avenues and 337 Newport Avenue	\$ 2,865.00	TOWN
Kleinfelder (Town)	6/26/2016	Corrective	On-Call Sewer Systems Assistance Contract - FY16	\$ 4,000.00	TOWN
			MISSING July to Dec. 2016 Town expenses - sheet to be updated		
Contract Operator (W&C)	Calendar Year 2016	Corective	Grinder Pumps	\$ 20,842.54	W&C
Contract Operator (W&C)	Calendar Year 2016	Preventative and Corrective	Pump Station Repairs	\$ 36,687.38	W&C
Contract Operator (W&C)	Calendar Year 2016	Preventative and Corrective	Sewer line maintenance	\$ 25,346.35	W&C
			Town	\$ 46,907.00	
			Woodard & Curran - subcontractors, materials and repairs - not including W&C labor	\$ 82,876.27	
			TOTAL	\$ 129,783.27	

APPENDIX D: UNAUTHORIZED DISCHARGE SUMMARY

2016 Unauthorized Discharge Summary

Date	2/19/16	3/15/16	3/29/16	4/14/16	5/14/16	6/7/16
Type of Asset	Home	Pump Station	Home	WWTF	Business	Home
Address	25 Main Street	Pump Station #3 (13 Rockland Circle)	28 Winthrop Avenue	WWTF (1111 Nantasket Avenue)	514 Nantasket Ave	35 Elm Avenue
Cause of Discharge	Blocked lateral from home, homeowner opened cleanout in driveway to relieve. Lateral on property little/no pitch causing rags to accumulate in line. Jetted/rodded, but eventually, had to be dug up, cleared, repaired.	Valve exercising for forcemain isolation valve (which was stuck open); Suspect failure of packing/packing gland. Sub-contractor able to stop leak by closing valve actuator.	Homeowner line blocked. Found lateral discharges into manhole, which was plugged. Some back up into basement of home, when plumber attempted to jet the pipe.	Operator Error - 12-inch pipe had not drained after use with the auxillary pumping system, and remaining sewage overflowed after pumping.	510-520 Nantasket Ave - blockage on private property which affected multiple tenants. Sewage backed from a basement grease interceptor, and sump pump in basement pumped out liquid to the outside driveway area. Some of this water made it to nearby MS4 catch basin, which may have drained to the Atlantic Ocean.	Staff responded to a home experiencing sewer back-up to find that a privately-owned grinder pump had malfunctioned and caused spillage into homeowners basement. The Board of Health and pump truck was dispatched to pump out chamber and was repaired on 6/8/16 by Rosano Davis.
If caused by blockage, what was blockage	Rags/Debris	N/A	Service connection blocked	N/A	Grease	N/A
If mechanical, when was the last inspection/failure date	N/A	3/30/2014	N/A	N/A	N/A	Unknown
Begin Time/Date	2/19/2016 9:15	3/15/2016 10:15	3/29/2016	4/14/2016 8:30	5/14/2016 14:30	6/7/2016 11:56
Stop Time/Date	2/19/2016 11:15	3/15/2016 10:16	3/29/2016	4/14/2016 8:32	5/14/2016 15:00	6/7/2016 13:30
Notification Source	Email	Email	Email	Call then Email	Phone Message	Email
Estimated release volume (gallons)	~5-10	~2-8	25-50	~50-75	20-30	Unknown
Method Used to Estimate Volume	Visual	Visual	Visual	Visual	Visual	N/A
Corrective action completed	After jetting/rodding by Windriver, dug up and repaired by Hub Construction	Lime applied to area around gate box; Gate box itself was vacuumed	Manhole obstruction initially worked on by plant staff, then had Rosano-Davis Pumping pump out/clean the manhole.	Lime applied to grassy area adjacent to spill	Sewer Dept checked sewer mains, and they were clear. Blockage was in private sewer line on property. Building owner contacted drain company to clear the line.	Advised owner to apply Lime; Rosano Davis pumped out sewage on 6/7 and returned on 6/8 to complete repairs to grinder pump.
Impact area Cleaned/disinfected?	NO	YES	YES	YES	Unknown	Unknown
Release to Town MS4?	NO	NO	NO	NO	YES	NO
Release to surface water	NO	NO	NO	NO	Unknown	NO

Date	7/26/16	12/19/16	12/30/16
Type of Asset	WWTF	Street	Business
Address	WWTF (1111 Nantasket Avenue)	205 Atlantic Avenue	26 Western Avenue
Cause of Discharge	Operator Error - While exercising large influent pumps that discharge to the 16" forcemain, the wet well level escalated to initiate larger pumping capacity, which overflowed the primary clarifier distribution box. As soon as the overflow was discovered, the pumps were put into hand operation mode, and lime was applied to the base of the surcharged distribution box. The SOP procedure for exercising influent pumps was reviewed by the team.	Hull Assistant Building Inspector, Bart Kelley, notified Hull WPCF of overflowing sewer manhole near 205 Atlantic Avenue. Upon arrival, the crew contacted Rosano-Davis septic company to pump the surcharged sewer line. The road surface was vacuumed and adjacent areas were cleaned and lime was applied. After the line was drained, and peak flow subsided, the main sewer line was jetted and 5 manholes were inspected.	On December 30, Hull WPCF staff responded to a sewer back-up at 26 Western Avenue. Upon arrival, it was determined that sewage was backing up into a detached garage. After further investigation, the upstream manhole was found to be surcharged and the downstream manhole was found to be flowing freely. On January 5, 2017, HUB Construction and Rasano Davis returned to unplug blockage in sewer pipe, and install cleanout port for improved maintenance outlet.
If caused by blockage, what was blockage	N/A	FOG	Debris/FOG in sewer main line
If mechanical, when was the last inspection/failure date	5/25/2013	N/A	N/A
Begin Time/Date	7/26/2016 10:00	12/19/2016 9:52	12/30/16 12:30pm
Stop Time/Date	7/26/2016 10:02	12/19/2016 10:15	12/30/2016 12:30pm
Notification Source	Email	Email	Email
Estimated release volume (gallons)	<20	250	360
Method Used to Estimate Volume	Visual	Visual/Rate of approximate flow and time	Visual & Calculated
Corrective action completed	Yes - area was cleaned and standard operator procedures were reviewed	Yes - 5 MH's and 700 feet of sewer pipe were cleaned as well as clearing blockage	Sewer blockage was cleared and a cleanout port was installed.
Impact area Cleaned/disinfected?	YES	YES	YES
Release to Town MS4?	NO	YES	NO
Release to surface water	NO	YES; Straits Pond	NO



woodardcurran.com
COMMITMENT & INTEGRITY DRIVE RESULTS